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Destination-Based Cash-Flow Taxation: A Critical Appraisal

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Destination-Based Cash-Flow Taxation: A Critical Appraisal

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Abstract

This Article offers the first comprehensive appraisal in both the legal and economic literatures of proposals for adopting destination-based cash flow taxation (DCFT) of multinational corporations. The DCFT was a key recommendation for reforming corporate taxation in the U.K., and has subsequently attracted wide attention as a way to fundamentally reform international taxation in the U.S., Europe and elsewhere. The core intuition of the DCFT is to tax profits earned by mobile capital by reference to immobile factors. I distinguish three versions of the DCFT for implementing this intuition: 1. formulary apportionment of business profits by reference to locations of sales to final consumers; 2. a destination-based VAT with deduction of labor costs and full refund of losses; and 3. a destination-based VAT with deduction of labor costs and implemented by origin countries.

In addition to identifying numerous controversial normative, behavioral and empirical assumptions that have been used to motivate and defend DCFT proposals, I present two conceptual dilemmas that challenge the proposals in their own terms. I argue that because the residence of individual shareholders and the location of final consumers are both immobile, the difference between residence- and destination-based taxation should be seen as lying in how likely it is to harness information about shareholder residence or consumer location. The fundamental challenge for DCFT proposals is that market mechanisms do not readily collect information about the latter, while information about shareholder residence is latent in the market. Therefore, most arguments made by DCFT proponents support residence-based taxation instead.

Keywords: international taxation, corporate taxation, destination-based taxation, VAT, BEPS, residence-based taxation.

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[*] I am grateful for comments from and discussions with Hugh Ault, Reuven Avi-Yonah, Robin Boadway, Edward Kleinbard, Giorgia Malfini, Peter Merrill, Yoshihiro Masui, and conference audiences at the University of Sydney and the Oxford Saïd Business School Centre for Business Taxation. All errors remain my own.

Introduction

The Base Erosion and Profit Shifting (BEPS) project, launched in July 2013 by the Organization of Economic Cooperation and Development (OECD), is now well into its third year. As a high-profile policy initiative for combatting perceivably rampant international tax avoidance by multinationals, BEPS is characterized by an agenda that has immediate and substantial bearings on taxpayers and the global tax profession.[1] Perhaps predictably from the project's political nature (having been endorsed by the member governments of the G-20) and its pressing practical implications, theoretical insights on the project, whether positive or normative, have been short in supply. It is only in the past year or so that a small body of academic literature has emerged that offers evaluations of BEPS from theoretical perspectives.[2] According to one prominent strand of this academic response to BEPS, the BEPS initiative is superficial in that it deals only with the symptoms, but not with the causes, of the ills in the international tax system. What should receive more public attention are more fundamental reforms of the system.[3]

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[1] OECD, ACTION PLAN ON BASE EROSION AND PROFIT SHIFTING (2013). OECD, *BEPS 2014 Deliverables*, OECD (2015), available at http://www.oecd.org/tax/beps-2014-deliverables.htm. OECD, *BEPS - Frequently Asked Questions*, OECD (2015), available at http://www.oecd.org/ctp/beps-frequentlyaskedquestions.htm.

[2] See, e.g. Dhammika Dharmapala, *What Do We Know About Base Erosion and Profit Shifting? A Review of the Empirical Literature*, 35 FISC. STUD. 421 (2014); James R. Hines Jr, *How Serious Is the Problem of Base Erosion and Profit Shifting?* 62 CAN. TAX J. 443 (2014); Ernesto Crivelli et al., *Base Erosion, Profit Shifting and Developing Countries* (International Monetary Fund Working Paper No. 15/118/May 29, 2015), available at http://www.imf.org/external/pubs/cat/longres.aspx?sk=42973.0; Daniel Shaviro, *The Crossroads Versus the Seesaw: Getting a "Fix" on Recent International Tax Policy Developments* (paper presented at the 9th Annual Symposium, Oxford University Centre for Business Taxation, June 23, 2015).

[3] See, e.g., Clemens Fuest et al., *Profit Shifting and "Aggressive" Tax Planning by Multinational Firms: Issues and Options for Reform*, 5 WORLD TAX J. 307 (2013); Michael Devereux & Rita de la Feria, *Designing and Implementing a Destination-Based Corporate Tax* (Oxford University Centre for Business Taxation, Working Paper No. 14/07/May, 2014), available at http://eureka.sbs.ox.ac.uk/5081/1/WP1407.pdf; Michael P. Devereux & John Vella, *Are We Heading towards a Corporate Tax System Fit for the 21st Century?* 35 FISC. STUD. 449 (2014).

Among writers who express this view, many make reference to the destination-based, cash-flow (or "flow-of-funds") corporate tax that was prominently presented in the UK Mirrlees Review in 2010.[4] Interest in this "radical" reform option has also been expressed in policymaking circles.[5] The key to the fascination that this reform proposal has held for both scholars and policymakers lies in the idea of "destination". As will be explained below, the essential idea of destination-based corporate income or profit taxation[6] is that corporate income or profits should be taxed in neither the countries of "source" (i.e. where productive activities generating the income or profits occur) nor the countries of "residence" (i.e. where either the corporation, its parent, or its ultimate individual owners reside), which are the only options traditionally discussed in the design of international taxation. Instead, the countries where the sales to final consumers occur that generate such income or profits should be allowed to tax them.[7] The prospect of injecting an entirely new dimension into the design of international taxation is what proposals for destination-based taxation seem to promise.

In this Article, I offer a comprehensive and critical response—the first, to my knowledge, in both the economic and legal literatures—to proposals for the destination-based, cash-flow corporate tax (abbreviated below as "DCFT").[8] I examine DCFT proposals and ask questions such as: What are the main theoretical motivations for advocating such a tax? What are its basic mechanisms? What are the main challenges that might face its implementation? Are the challenges merely technical (which might be overcome or mitigated by careful institutional design, including through legal devices), or are they more fundamentally conceptual? And, last but not the least, how do these challenges—whether conceptual,

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[4] Alan Auerbach et al., *Taxing Corporate Income*, *in* DIMENSIONS OF TAX DESIGN: THE MIRRLEES REVIEW 837, 837-93 (Stuart Adam et al. eds., 2010) [hereinafter *ADS 2010*]. The Mirrlees Review was a comprehensive review of tax reforms completed in the United Kingdom in 2010. For references to some literature on the destination-based cash flow tax that preceded *ADS 2010*, see Devereux & de la Feria, *supra* note 3, at 3 n.1. In addition, as *ADS 2010* acknowledges, there is an important body of U.S. economic and legal literature that discusses implementing consumption taxation through a cash-flow tax on businesses, either on a destination or an origin basis. See, e.g., David Bradford, *The X Tax in the World Economy* (Griswold Centre for Economic Policy Studies, Working Paper 93/Aug., 2003), available at https://www.princeton.edu/ceps/workingpapers/93bradford.pdf; Harry Grubert & T. Scott Newlon, *The International Implications of Consumption Tax Proposals*, 48 NATL TAX J. 619 (1995). For a different type of proposal to make the corporate *income* tax destination-based, see Reuven S. Avi-Yonah, *The Case for a Destination-Based Corporate Tax* (University of Michigan Law School Draft Paper/Jul. 22, 2015), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2634391. Some further U.S. literature is cited and discussed in Part III.2 *infra*.

[5] See, e.g. INTERNATIONAL MONETARY FUND, SPILLOVERS IN INTERNATIONAL CORPORATE TAXATION 42 (2014).

[6] The difference between taxing corporate income and taxing corporate profit is that the normal return to corporate capital is taxed under the former but not the latter. Both tax the "excess" or "supra-normal" return to corporate capital, sometimes also labeled as "corporate rent". See discussion in Part I *infra*.

[7] As one critic of destination-based income taxation puts it: "Sales-based income taxation is a new guiding principle for the taxation of cross-border income. Other standards that have been suggested…offer the choice between source taxation and residence taxation. Where consumption takes place has not usually been explicitly considered.… There therefore seem to be three [, not two,] basic choices for who should tax corporate profits: the MNC's home country [i.e. the residence country], the country where the good or service is produced [i.e. the source country], and the country where it is consumed [i.e. the country of destination]." Harry Grubert, *Destination Based Income Taxes: A Mismatch Made in Heaven?* (Manuscript on file with the author) [hereinafter *A Mismatch Made in Heaven*][Pincites to Grubert's article pending definitive version]

[8] There is currently no standard abbreviation for this proposed reform option. See, e.g. Kristen Parillo, *A Destination-Based Corporate Tax: An Alternative to BEPS?* 78 TAX NOTES INTL 315 (2015) (using the abbreviation "DBCT"). I choose DCFT to emphasize the cash-flow aspect of the proposals.

technical, administrative, or political—compare with the constraints that might have led to all the flaws in the existing international tax system?

The basic conclusion I come to is that the concept of "destination" does not introduce superior possibilities for taxing corporate profit (or income). The key theoretical ideas behind my arguments are as follows. Implicitly, DCFT proponents reject taxing multinationals by reference to the residence of their ultimate individual shareholders. Instead, they aim to introduce information about individuals qua final consumers into the design of the corporate tax, and look to VAT mechanisms for clues about how this can be done. However, individual residency and the location of individuals as consumers are—and are assumed by DCFT proponents to be—essentially the same. Why, then, can corporate income or profit be taxed by reference to the location of final consumers, but not by reference to the location of ultimate shareholders? In reality, market transactions are much less likely to transmit information about final consumers than they are to transmit information about ultimate shareholders. This is because the identities of parties transacting in the marketplace tend to be preserved only for financial transactions, but not for most other transactions such as the sales of goods and services. Thus from a system-design perspective, "destination" is much less promising than "residence" (when both are understood as capturing information about natural persons) for dealing with problems arising from capital mobility.

I develop the above ideas through a series of arguments directed at three different versions of the DCFT. The first version, discussed in Part II below, proposes to tax corporate profits (measured on a cash-flow basis) essentially by sales-factor apportionment.[9] Although this is not the most favored version of the DCFT, it is important to discuss for three reasons. First, the proposal faces a detrimental dilemma arising from the fact that much of international trade comprises sales not to final consumers but to other businesses. Reviewing this dilemma helps to highlight the difficulty of introducing information about final consumers into international taxation. Second, some commentators have surmised that taxation on the destination basis may be inherently more suitable for consumption taxes than for income taxes.[10] A careful consideration of DCFT Version 1 suggests that, to the contrary, the main objections that can be mounted against it are also objections against destination-based income taxes. Third, despite its flaws, DCFT Version 1 is clearly a tax on corporate profits, and therefore is immune to a crucial objection to the other versions of the CDFT.[11]

The second version of the DCFT, discussed in Part III, is likely the most favored version among DCFT proponents.[12] It is similar to a destination-based value added tax (VAT) but with two differences: (1) labor cost is fully deductible, and (2) businesses' cash-flow losses (including from the full expensing of corporate investments) are fully refunded.[13] I argue that this version of the DCFT faces a different

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[9] It is thus analogous to recent proposals for taxing corporate income by formulary apportionment. See, e.g. Reuven S. Avi-Yonah et al., *Allocating Business Profits for Tax Purposes: A Proposal to Adopt a Formulary Profit Split*, 9 FLA. TAX REV. 497 (2009).

[10] *A Mismatch Made in Heaven*, *supra* note 7, at __.

[11] See discussion in Part III.4 *infra*.

[12] DCFT Version 2 is most fully developed in Alan Auerbach & Michael Devereux, *Consumption and Cash-Flow Taxes in an International Setting* 1 (National Bureau of Economic Research Working Paper No. 19579/Oct. 2013), available at http://www.nber.org/papers/w19579 [hereinafter *AD 2013*]. See also *ADS 2010*, *supra* note 4; Devereux & de la Feria, *supra* note 3.

[13] In Part III.1, I explain why this second difference of the DCFT from the VAT has been insufficiently recognized amongst economists.

dilemma: either it creates unpalatable trade distortions (and therefore is properly challengeable under WTO law), or, if assumptions (relating to the incidence of the DCFT) are made that such trade distortions do not arise, it simply fails to impose a tax on corporate profits in the normally understood sense. Moreover, it allocates tax revenue according to where shareholders reside and not where customers reside. This, I believe, substantially detract from the conceptual and policy appeal of DCFT.

A third version of the DCFT, discussed in Part IV, is similar to Version 2 but requires both administrative cooperation and revenue transfers among different nations.[14] It faces a similar dilemma as Version 2, but also raises further questions about what assumptions are appropriate, regarding how much countries cooperate in implementing international tax policy, in comparing DCFT proposals and the current international tax system (and less radical reform proposals. It can be argued that at the level of cooperation assumed by DCFT Version 3, the current international tax regime is preferable to the DCFT.

These specific arguments concerning three distinct versions of the DCFT all suggest that the challenges of taxing corporate profits on a destination-basis are fundamentally conceptual. The Article claims that these challenges can be traced to the difficulty of incorporating information about destination into international tax design, a difficulty that clearly goes to the very heart of DCFT proposals. I argue that this difficulty holds equally for the VAT and for the DCFT, as is reflected in the fact that the VAT, contrary to the suggestions of several scholars, relies very little on information about final consumers in its application to cross-border transactions. By contrast, the international income tax systems in many countries successfully deploy at least some information about the ultimate shareholders of corporations (and the corporate holdings of individual investors). Interestingly, these abstract considerations point to a novel international tax reform option, namely formulary apportionment by reference to the residence of ultimate individual shareholders. Although this option has rarely been given consideration, and although elaborating it is beyond the scope of this Article, it is an obvious and inevitable implication of the arguments advanced here.

The Article proceeds as follows. Part I explains the theoretical motivations for DCFT proposals, identifies certain weaknesses in the normative framework adopted by DCFT proponents, and considers how a DCFT is related to individual taxation. Parts II-IV analyze and criticize the three versions of the DCFT. Part V elaborates on the fundamental difficulty of introducing information about final consumption into the design of international taxation, by showing how the VAT relies very little on information about the location of final consumers. Part VI lays out a fundamental explanation of this phenomenon in terms of the differences between financial and non-financial transactions in respect of their tendency to retain information about mutual identities of transacting parties. It then explains why formulary apportionment by residence of ultimate shareholders should be further considered for reforming international corporate taxation. A brief Conclusion follows.

I. The Normative Framework and Scope of Application of DCFT Proposals

1. Neutralities in the face of capital mobility: the basic set-up

[14] This version of the DCFT is set out in Devereux & de la Feria, *supra* note 3.

The destination-based, cash-flow tax is intended to replace the income tax many countries currently impose on corporations. The idea of a cash flow tax on business entities is well-known, and dates back to at least the U.K.'s Meade Report in the late 1970s.[15] A cash flow tax allows a business' capital investments to be immediately deducted (as opposed to depreciated overtime) in computing its tax base. This results in a zero marginal tax rate on the business' investment, and eliminates the tax distortion on its marginal investment decisions.[16]

While various reasons have historically been offered for imposing a zero rate of tax on the normal return to capital,[17] the recent literature on corporate taxation has emphasized one such reason arising in the international context. When investors have access to a global financial market, any business in a small open economy can raise capital only at a price determined by the world market. Under this assumption, any tax imposed by the government of the small open economy on the normal return to investment will simply increase, by the amount of the tax, the required rate of return for investments in the country. This has two effects: it creates deadweight losses by reducing the level of demand for capital; and, because perfectly mobile capital bears no burden of the tax, any tax collected is simply shifted onto local immobile factors of production such as labor. Eliminating the tax would remove the deadweight loss without affecting the government's ability to tax local immobile factors.[18]

The motivation for the "destination-based" aspect of the DCFT relies on the following further reasoning.[19] Multinational corporations (MNCs) actually face three, not one, margins in their investment decisions. They first make discrete decisions on where to locate production. While many factors affect this decision, the relevant tax factor is the effective average rate of tax that would be borne by the returns from an investment as a whole.[20] Once the discrete decision of where to locate production is made, a second type of decision, how much to invest, will be made and will continue to be adjusted. This type of decision is affected by the effective marginal tax rate. Third and finally, once profits on investments are realized, corporate managers have choices about where to book the profits, and this last decision will be affected by the countries' statutory tax rates.

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[15] JAMES MEADE, THE STRUCTURE AND REFORM OF DIRECT TAXATION (1978), available at http://www.ifs.org.uk/publications/3433.

[16] In the recent policy literature, the cash-flow corporate tax is usually presented alongside two close alternatives: a modification of the current corporate income tax that provides an "allowance for corporate equity" (ACE), and another modification that involves a "capital cost allowance". Despite several technical differences, all three alternatives propose a tax on corporate rent instead of corporate income: the normal return to capital earned by corporate investments is exempted, and only supra-normal returns to investment are taxed. See Robin Boadway & Jean-François Tremblay, *Corporate Tax Reform: Issues and Prospects for Canada* (Mowat Centre Research Paper No. 88/May 7, 2014), available at http://mowatcentre.ca/corporate-tax-reform.

[17] See, generally, James Banks & Peter Diamond, *The base for direct taxation*, *in* DIMENSIONS OF TAX DESIGN: THE MIRRLEES REVIEW 548 (Stuart Adam et al. eds., 2010).

[18] See *ADS 2010*, *supra* note 4, at 842; Roger H.Gordon & James R. Hines, Jr., *International Taxation*, *in* 4 HANDBOOK OF PUBLIC ECONOMICS (ALAN AUERBACH & MARTIN FELDSTEIN EDS., 2002).

[19] Id. at 838.

[20] This average rate will depend on the effective tax rate on marginal investment (which may be positive, zero, or negative), the tax rates on infra-marginal investments, and the proportions of the returns subject to each of the rates.

To illustrate the choices of MNCs along these three margins, consider the following stylized set-up,[21] which involves three countries that play different roles in the international tax regime. First, there is country O, in which a multinational locates its production, say through a company X incorporated in O. O is often labeled the country of "source" for X's income or profits. It can also be labeled the country of "origin", in light of the possibility that the goods produced in it may be exported for sale in another country. Second, there is a country of "residence", R, which is where X's ultimate individual shareholders—the ultimate claimants to X's income—reside.[22] R may also happen to be the country where X's ultimate corporate parent is incorporated or managed, but because the place of incorporation or management is increasingly mobile and tax-driven,[23] it is the residence country (or countries) of shareholders that is (are) more relevant. Third, there is a tax haven country, H, with substantially lower statutory and effective tax rates than both R and O (e.g. the tax rate may be zero).

DCFT proponents point out that if the shareholders of X have already decided to locate X in O, and if O eliminates its tax on the normal return to corporate capital (e.g. by adopting a cash flow tax or one of its close relatives), tax factors will no longer affect X's marginal decision about how much to invest in O. However, tax can still distort choices on the first and third margins. Thus, for example, if the MNC group to which X belongs can command some kind of firm-specific, mobile rent, it may choose to locate production in a jurisdiction (e.g. H) with a lower average tax rate in order to maximize after-tax rent, even if in another country (e.g. O), with a higher average tax rate, a higher pre-tax rent can be generated for the firm.[24] Therefore even a cash flow tax can still distort real economic activities and lead to welfare loss, as long as it is "source"-based. Moreover, X may be tempted to shift income resulting from production in O to H, in order to lower the tax on its profits.

These distortions, DCFT proponents suggest, can be removed if one implements the taxation of X's cash-flow profits by reference to a factor that X cannot manipulate. Moreover, they claim that one such factor is where the final consumers for the goods X produces reside. Most productive activities eventually end in the sale of consumable goods and services. The location of final consumers, though, is essentially a given for any MNC. Thus if corporate profits are taxed by reference to where the sales to final consumers generating the profits are made,[25] the MNC's decisions about where to locate its production and its profits will have no effect on its tax liability. The MNC should then make these decisions based only on real (i.e. non-tax-driven) economic considerations. A DCFT would consequently be superior to source-based (either income or cash-flow) taxation, in that it achieves neutrality along all three decisional margins described above and avoids distortionary effects. In terms of the stylized setup described above, DCFT proposals introduce a fourth country, the country of "destination" (D in Figure

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[21] See *ADS 2010, supra* note 4, at 870. *ADS 2010* does not explicitly discuss the tax haven country, and considers only the residence, source/origin, and destination countries. See Dhammika Dharmapala, *Base Erosion and Profit Shifting: A Simple Conceptual Framework* (University of Chicago Coase-Sandor Institute for Law & Economics Research Paper No. 703/Sept. 25, 2014), for a setup explicitly including a tax haven country.

[22] There may be indefinitely many interposed entities, located in other jurisdictions, between X and its ultimate individual shareholders.

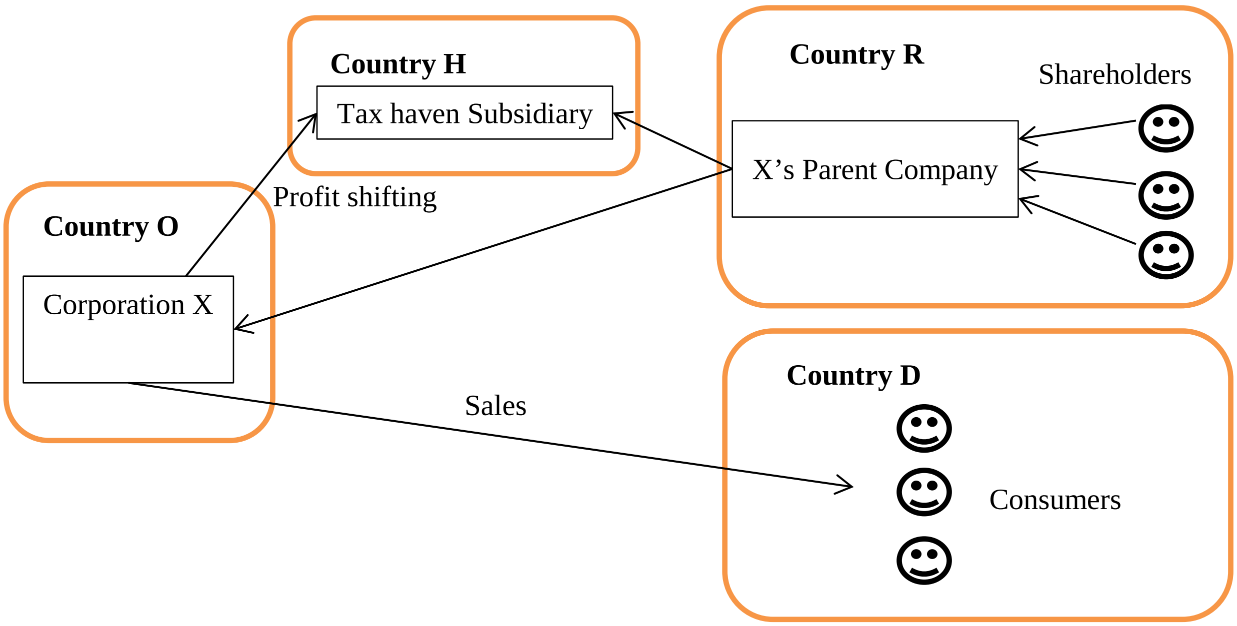
[23] Mihir A. Desai, *The Decentering of the Global Firm*, 32 WORLD ECON. 1271 (2009); Daniel Shaviro, *The Rising Tax-Electivity of U.S. Corporate Residence*, 64 TAX L. REV. 377 (2011).

[24] It is commonly agreed that if a certain rent is location-specific or immobile, it is more likely that a tax imposed by the government where the rent is located would not affect the decisions of foreign investors. See *ADS 2010*, at 872.

[25] As this formulation already reveals, what "sales to final consumers generating the profits" means for firms that only sell intermediate inputs to other firms is ambiguous. See Part II *infra*.

1)—the country where X' products are bought and consumed—into the picture. Under the current international tax system, only countries O, R, and H are regarded as have taxing rights over X's income. But DCFT proponents argue that many of the intractable problems of the current system can be solved if X's income or profit can be taxed in D.

Figure 1



This Article focuses on the central question of what it means to introduce D into the taxation of X's profits, taking largely as given the normative framework just described. However, it is important to mention at the outset a number of questions and objections that can be (and have been) raised against the foregoing normative framework itself. Some of these questions have specific design implications for DCFT proposals, e.g. whether the DCFT should apply to flow-through entities. However, discussing these questions and objections may be perceived by DCFT proponents as not engaging with their proposals on their own terms. This Article aims precisely to pursue this latter kind of engagement. Therefore, after discussing some of the important objections to the DCFT's normative framework in this Part, I will leave them aside, and focus on the central theoretical intuition that the country of destination expands the set of policy options for designing international taxation.

2. Do neutralities provide a necessary or sufficient set of normative criteria?

A first type of objection concerns the significance of the criteria of neutrality in light of which the DCFT is presented as potentially superior to residence- or source-based income taxation. Consider, to start, neutrality with respect to where to book corporate profits—the third margin described above. Are real economic activities associated with decisions along this margin (assuming such decisions to be influenced by statutory tax rates)? On one hand, if the main activities associated with such decisions are the implementation of tax planning and avoidance strategies, then it can be agreed that these activities are a form of social deadweight loss, the elimination of which is desirable.[26] There are, however, other policy instruments for responding to tax planning and avoidance, such as anti-avoidance rules adopted either on a unilateral or a multi-lateral basis.[27] It is not clear that fundamental changes to the tax base and the allocation of taxing rights—which is what DCFT proposals require—are necessary. On the other hand, if, putting wasteful tax avoidance aside, no real economic activities are affected by the location of corporate profits, then such location decisions, being purely tax-driven, can only have distributional consequences. In that case, neutrality with respect to such decisions is a questionable goal, since it is not clear what normative weight should be given to the distributions resulting from decisions made when tax is neutral.

A similar question may be raised about the second margin of corporate decisions. If the locations of final consumption of the goods or services produced by particular firms are fixed and known, and if the firms' profits can be taxed by reference to such locations, then the open-economy-based objection to taxing the normal rate of return on internationally mobile capital falls away. Whatever other considerations there are against taxing the normal return on capital (e.g. potential distortions of individual saving decisions), the deadweight loss associated with the mobility of capital is no longer one of them. Therefore, the "destination" aspect of DCFT undermines the rationale of the "cash flow" aspect.

These questions suggest that the neutrality criteria chosen by DCFT proponents are somewhat ad hoc.[28] But a more important question regarding the choice of normative criteria is whether they adequately capture the motivations of DCFT. For example, even if neutrality with respect to the above three margins is accepted as a useful benchmark, such neutrality does not specify a uniquely superior tax. Importantly, a destination-based VAT also achieves such neutrality.[29] Given this, why should one not just regard the VAT as the international tax reform option and repeal the corporate income tax? [30] Clearly, considerations other than neutrality with respect to the above three margins are needed to motivate DCFT.

One possible reply here is that perhaps DCFT proponents believe that, in countries that (unlike the U.S.) have both the VAT and the corporate income tax, it would not be politically feasible to raise VAT rates sufficiently to cover the revenue shortfall from the repeal of the corporate income tax, but it would be politically feasible to convert the existing corporate income tax into a DCFT.[31] Alternatively, it may be that the attraction of a DCFT relative to the VAT lies in that, because it taxes rent accruing to capital but not any return to labor (while the VAT taxes both), it results in more progressivity in tax systems. But other tax policy instruments can also increase progressivity. Is progressivity an accidental

[26] Dharmapala, *supra* note 21.
[27] Professor Dharmapala, id, for example, suggests that the BEPS project can be conceived as a coordinated anti-avoidance effort.
[28] As compared, for example, to some of the more traditional criteria for evaluating international taxation regimes, such as Capital Export Neutrality and Capital Import Neutrality. See Rosanne Altshuler, *Recent Developments in the Debate on Deferral*, 87 TAX NOTES 255 (2000).
[29] Michael Keen & David Wildasin, *Pareto-Efficient International Taxation*, 94 AM. ECON. REV. 259, 268 (2004). See Part III.3 below for an algebraic illustration. See also Part VI *infra*, for the discussion of a form of formulary apportionment that taxes corporate profit by reference to where ultimate shareholders reside that is similarly neutral.
[30] This reform option is particularly salient for the U.S., which does not yet have a VAT, and the corporate income tax of which is widely regarded as badly in need of reform. See ERIC TODER & ALAN D. VIARD, MAJOR SURGERY NEEDED: A CALL FOR STRUCTURAL REFORM OF THE U.S. CORPORATE INCOME TAX 1 (2014).
[31] Why this might be the case is not clear, and DCFT proponents should elaborate on these institutional considerations if they are relevant.

consequence of DCFT proposals, or is it one of its fundamental aims? If the latter, is it relevant that the traditional corporate income tax may allow greater progressivity even than the DCFT, but at the cost of sacrificing neutrality? How should any trade-off between progressivity and neutrality be evaluated?

This last question illustrates a more general objection, recently raised by David Weisbach,[32] to the use of neutralities as the main guide for designing international taxation. In the context of domestic tax policy design, the objective is normally thought of as maximizing social welfare, which often involves trading efficiency losses against distributional goals that may enhance social welfare. Where efficiency losses cannot be eliminated, the objective is to measure the size of deadweight losses and reduce them in the aggregate. Moreover, the measurement of deadweight loss needs to take into account pre-existing distortions. In the context of international taxation, the use of the neutrality benchmarks avoids the complexities of this standard normative framework. Is this justified because these standard normative considerations cannot usefully be applied in the international tax context?[33] Without clarifying such assumptions, the neutrality goal could turn out to be as unreliable as the much criticized traditional normative heuristics for designing international taxation.[34]

3. The scope of the DCFT and its relationship to individual taxation

The query regarding why DCFT proposals should be preferred over the VAT (assuming that both satisfy the neutrality criteria specified by DCFT proponents), and the fact that tax progressivity may be a relevant consideration, also call attention to the further question: what relationship between the DCFT and individual taxation is envisioned by the former's proponents? This question is unavoidable for two reasons. First and most importantly, a key traditional justification given for the corporate income tax is that it serves as a backstop to individual income taxation and prevents individuals from indefinitely deferring paying the personal income tax by earning income through corporations.[35] A cash flow tax on corporations, however, removes the normal return to capital from the tax base. It therefore would not be effective in denying individual shareholders the advantage of deferral. What, then, is the point of maintaining the tax on corporations?[36]

Proponents of taxing corporations and other businesses on a cash-flow or similar basis have given diverse answers to this question. David Bradford's well-known "X tax", for example, is simply a consumption tax that does not aim to tax shareholders on corporate income.[37] More recently, Edward

[32] David A. Weisbach, *The Use of Neutralities in International Tax Policy* (University of Chicago Coase-Sandor Institute for Law & Economics Research Paper No. 697/Aug.18, 2014).
[33] Or is it because, for some reason that DCFT proponents have not explained, the existing international tax system, the DCFT, or other reform proposals do not differ along these potentially relevant normative dimensions, and it is only the three margins of corporate decisions that matter?
[34] See, also, Keen & Wildasin, supra note , at 270 ("Pareto- efficient international taxation may require production inefficiency in the allocation of the world's resources: tariffs and other policies that distort world production patterns may actually make all countries better off.")
[35] TODER & VIARD, *supra* note 30, at 2; Boadway & Tremblay, *supra* note 16, at 8, 12.
[36] Many will find it normatively arbitrary to leave this question unanswered while judging different kinds of corporate taxes by reference to neutrality benchmarks. See Weisbach, *supra* note 32.
[37] Bradford, *supra* note 4. The X tax operates like a VAT, except that wage payments are deducted by firms and separately taxed to the employees. As discussed in Part III.2 *infra*, The X tax is also origin-based, and not destination-based.

Kleinbard has proposed the Business Enterprise Income Tax (BEIT), which explicitly taxes only economic rent at the firm level, and only the normal return to capital at the investor level.[38] The BEIT serves as a device to measure capital income from risk taking and economic rent, instead of the traditional role of preventing the deferral of income by shareholders. By being explicit about the tax treatment of shareholders, both Bradford and Kleinbard also leave it unambiguous that their proposed taxes apply to all business entities, not just corporations. In contrast to these proposals, Robin Boadway and Jean-Francois Tremblay have recently advocated a tax on corporate rent that is combined with realization-based income taxation of shareholders.[39] They view shareholder-level taxation as essential to maintaining the progressivity of the tax system. Taxing economic rent earned by corporations, on the other hand, is justified simply by the goal of generating revenue with the least level of economic distortions.[40] Moreover, Boadway and Tremblay's tax on corporate rent is "origin-based" and not destination-based: it allows the country where economic rent is earned to tax foreign claimants to the rent, which is one of the other traditional justifications for maintaining the corporate income tax.[41]

In contrast to these other proposals to tax corporations on the cash-flow (or similar) basis, DCFT proponents have not been explicit about what type of individual, shareholder-level tax they assume to be in place. It is likely, however, that their assumptions are similar to Boadway and Tremblay's. For example, in setting out the DCFT in the Mirrlees Review and comparing it with other international tax reform proposals, Alan Auerbach, Michael Devereux and Helen Simpson treated residence-based taxation of individual shareholders as relevant to evaluating the effects of corporate taxation.[42] They claimed that taxing individual shareholders' income earned through (but not yet undistributed from) foreign corporations on a current basis is impractical.[43] They thus imply that individuals should not be allowed to defer the recognition of their income indefinitely, which implication seems to take income taxation of individuals as the baseline.[44] However, as noted above, the DCFT carves the normal return of capital out of the tax base, and therefore should not be viewed as dealing with the problem of shareholder deferral. Therefore, the DCFT imposed on corporations presumably serves the same function as the origin-based

[38] Edward D. Kleinbard, *Reimagining Capital Income Taxation* (paper presented at the Annual Symposium of the Oxford University Centre for Business Taxation, Saïd Business School, Oxford, UK, June 22, 2015, on file with the author). The BEIT implements the tax on corporate rent through a cost of capital allowance instead of immediate deductions for capital expenses, a distinction that is irrelevant for the purposes here. See note 16 *supra*.
[39] Boadway & Tremblay, *supra* note 16.
[40] Thus it is conceivable that, under Boadway & Tremblay's proposal, economic rent earned through corporations is taxed both at the corporate level and the investor level, even though the normal return to investment in corporations is taxed only at the shareholder level. Boadway and Tremblay do not analyze this issue. The evaluation of the taxation of economic rent at both corporate and shareholder levels (which may be justifiable if economic rent is properly measured) is further complicated by the fact that even a tax on corporate rent may be partially shifted onto labor, if wage payments reflect labor rent. The presence of labor rent has been used to explain the shifting of corporate tax incidence in a number of recent empirical studies. See, e.g. Clemens Fuest et al., *Do Higher Corporate Taxes Reduce Wages? Micro Evidence from Germany* (IZA Discussion Paper No. 7390/May, 2013).
[41] Boadway & Tremblay, *supra* note 16, at 28, 49; *ADS 2010*, *supra* note 4, at 911. The DCFT relinquishes this effect of the corporate tax. *Id.*
[42] *ADS 2010*, *supra* note 4, at 839.
[43] Id.
[44] As discussed above, in response to the question of why the DCFT should be considered instead of the regular VAT, DCFT proponents may claim progressivity properties for the DCFT. However, if the personal income tax is already assumed by DCFT proponents to be in place, the question can be raised why the personal income tax should not be relied on exclusively for achieving progressivity.

tax on corporations proposed by Boadway and Tremblay: rather than a device for protecting the integrity of the personal income tax, it is simply a separate tax instrument that should be evaluated separately by reference to its efficiency and distributional consequences.[45]

A second reason for inquiring into the envisioned relationship between the DCFT and individual taxation has to do with the DCFT's scope of application. In particular, would the DCFT apply only to corporate entities, or would it apply to unincorporated business entities as well?[46] Here, DCFT proponents seem to face conflicting considerations. On the one hand, unincorporated business entities pose a distinctive issue only when their owners (unlike shareholders of corporations) are taxed on a current basis on income earned through such entities. Moreover, such taxation is presumably implemented on a residence basis by the individual owners' countries of residence. In such cases, the distortions of source-based taxation in theory either do not arise or are minimized.[47] Consequently, the normative rationale for taxing such entities on a destination basis is limited. On the other hand, confining the DCFT to the corporate sector raises difficult implementation issues (which will become clear as we discuss the specific versions of the DCFT in Parts II-IV). For example, the destination country may need to decide how a foreign entity is taxed under foreign laws. Therefore, any practically implementable version of the DCFT will likely have to be imposed on all business entities, whereas origin-based taxes on corporate rent such as the kind described by Boadway and Tremblay can practically be limited to corporations.

There is yet another perspective on this question. If the DCFT is viewed simply as an efficient revenue generating device that has its independent rationale apart from the personal income tax, the need to closely coordinate firm- and shareholder-level taxes may be less urgent. As already stated, the DCFT cannot be a backstop to personal income tax because it leaves the normal return to capital out of the tax base. Moreover, it may have a progressive effect in addition to any progressivity built into individual taxation. From this perspective, imposing a DCFT on flow-through entities in addition to the personal income tax already imposed on the owners of such entities is no more problematic than imposing the DCFT on corporations in addition to the personal income tax already imposed on shareholders. In other words, the distinction between corporations and flow-through entities only matter to the income tax, but should be irrelevant to DCT proponents.[48]

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[45] As discussed in note 41 *supra*, the DCFT differs from origin-based taxes on corporate rent in that foreign claimants to such rent are no longer taxed by the government where the rent arises.

[46] This is an important question especially for U.S. policymakers, since most businesses in the U.S. today are taxed on a flow-through basis (and such businesses accounted for 56% of taxable business profits in 2008). TODER & VIARD, *supra* note 30, at 5. Flow-through taxation is less important in Canada and many other countries than it is in the U.S., both because of greater efforts at integrating corporate- and shareholder- level income taxation in the past, and because flow-through entities are used less frequently in these countries than in the U.S. (probably only in part because of the smaller discrepancy in the tax treatment of corporate and non-corporate forms).

[47] It is true that the income of flow-through entities may also be owned by corporations. However, it is not clear how such income is to be taxed to corporations on a destination basis.

[48] Contrast this analysis with the reasoning of Devereux and de la Feria *supra* note 3, at 14. They assert that the destination-based tax should be applied to all businesses, but in the case of non-corporate entities subject to flow-through taxation, the tax should be creditable against personal income tax. It is not clear why they regard this as necessary. In addition, as discussed in Part III.4, the incidence of the DCFT (as envisioned by Devereux and De le Feria) does not fall on the owners of the business subject to the DCFT, thus giving a credit to owners would generate a windfall for them.

4. A note about framing

Before discussing specific versions of DCFT proposals, it is useful to pause and make two remarks on the stylized setup in Figure 1. First, the novelty of the DCFT proposals, we have anticipated, is introducing the country D in the picture, whereas previously only the countries of residence and source (R, O, and H[49]) have been considered. This sense of novelty—and even counter-intuitiveness—relies on the distinctness of D from R and O. In particular, presenting the DCFT as a matter of taxing corporate profits by reference to a non-manipulable factor (thus offering a superior alternative to the traditional corporate income tax) suggests that country D's tax policy—in particular, its choice of tax rates—will affect X' after-tax income and ultimately the after-tax investment returns of X's shareholders in R.[50] Moreover, a transfer should occur from X's profits to D's government. However, if the effect of the DCFT is such that it simply changes consumer prices in D, but has no effect on either X' after-tax income or the after-tax investment returns of X's shareholders in R, then the DCFT is no longer a tax on corporate income or profit. Moreover, if D's choice of tax rates matters only because it is assumed that X's shareholders reside in D—that is, R and D turn out to be the same country—then the claim that a new policy option is introduced may obfuscate more than it illuminates. This, we will see in Part III.3, forms one horn of the dilemma facing Version 2 (and Version 3) of DCT proposals.

Second, in the setup in Figure 1, it is stipulated that where the final consumers of X's produces live is non-manipulable. The identity of D, that is, is fixed regardless of the location of X's activities. The question can be raised, however, whether the same cannot be said about the identity of R, the location of the ultimate individual shareholders that supply capital to MNCs. If the same *can* be said about R, then why should we not try to tax X's profit by reference to R instead of D? In Parts VI, I will argue that although the identity of neither R nor D is easily available under current international tax paradigms, the identity of R is more likely to be transmitted by market mechanisms than the identity of R.

II. DCFT Version 1: Taxing Corporate Profit in the Country of Destination

Proponents of the DCFT have stressed its conceptual motivations and advantages; proposals for detailed implementation are still supposed to be work in progress.[51] However, to fix ideas, it is important to consider some simple versions of the tax. This Part reviews "DCFT Version 1," which can be simply described using the set-up laid out in Part I.1 supra.[52] Consider X, which is incorporated and engages in production in country O, but suppose that X sells all of its products to consumers in country D. Suppose that X's cash-flow profits can be accurately measured: capital expenditures, for example, are immediately

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[49] H may be considered as a country of source if it is a potential candidate for the location of production. As a tax haven country where no real economic activities take place and no real shareholders reside, It is also now often regarded as the location of "stateless income"—a country of no taxation. See, generally, Edward D. Kleinbard, *Stateless Income*, 11 FLA. TAX REV. 699 (2011).

[50] Under the current international tax regime such investment return can be affected only by the tax rates in R and in O.

[51] See, e.g., Devereux & de la Feria, *supra* note 3, at 3; Parillo, *supra* note 8 .

[52] This version of the DCT is suggested but set aside in *ADS 2010*, *supra* note 4, at 883.

deducted.[53] Under an "origin-based" cash flow tax,[54] such profits of X would simply be taxed in O, where X's production is located. This is analogous to the "source"-based income taxation of X's income under the current international income tax regime—the source of active business income is where the business is carried out. Under the *destination*-based cash flow tax, by contrast, sales to final consumers in D would be identified by D's tax authorities. Such sales create a potential tax liability in D for all vendors (domestic and foreign), including X. Since the tax is not a tax on sales but on business profits, however, the extent of X's tax liability in D depends on X's costs that are allocable to the sales in D, even if they are incurred in O. Under DCFT Version 1, D would allow such deductions. On the other hand, if O also adopts DCFT Version 1, O collects no tax from X, since no sale to final consumers is made in O. Essentially, the profit that would have been taxed in country O under a source- (or origin-) based international tax regime is taxed in D instead. This is the switch from source- to destination-based taxation.

As explained in Part I, the motivation for thus giving D a tax base that used to belong to O is that, if X knows that the locations of the final consumers are the only thing that will determine the tax rates at which its profits will be taxed, it will not locate production in O just because O has a lower tax rate. It will also not to try to shift profit out of O, for example to H, since that will not prevent its profits from being taxed in D. Moreover, since X's tax base is measured on the cash-flow basis, the tax does not distort X's marginal investment decisions.

Despite achieving the neutrality objectives stated for the DCFT in general, DCFT Version 1 is not favored by DCFT proponents.[55] It nonetheless illustrates some of the fundamental issues facing all proposals for destination-based taxation. DCFT Version 1 is closely related to various proposals for taxing corporate profits by formulary apportionment according to a sales-only factor.[56] The main difference is that formulary apportionment is typically considered in the income tax context,[57] whereas under DCFT Version 1, what is taxable in D is X's cash flow profit.[58] However, the main objections to

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[53] For simplicity, in this Article I will only discuss the versions of the DCFT that disregard financial flows—the "R-based" version, as opposed to the "R+F" version, of the taxes. See *ADS 2010*, *supra* note 4, at 886-8, for discussions of a version of the DCFT that takes into account both real ("R") and financial ('F") cash flows of a business.

[54] This is essentially the proposal for corporate tax reform in Canada advanced by Boadway & Tremblay, *supra* note 16. Boadway & Tremblay discuss the distinction between the cash flow tax and a tax on corporate economic profit using either the capital cost allowance or ACE, id, at 45-7.

[55] *ADS 2010*, *supra* note 4, at 883.

[56] See, e.g., Avi-Yonah et al., *supra* note 9; Rosanne Altshuler & Harry Grubert, *Formula Apportionment: Is it Better than the Current System and are there Better Alternatives?* 63 NATL TAX J. 1145, 1148 (2010); Harry Grubert & Rosanne Altshuler, *Fixing the System: An Analysis of Alternative Proposals for the Reform of International Tax*, 66 NATL TAX J. 671, 705 (2013); TODER & VIARD, *supra* note 30, at 23.

[57] FA may apply to all of corporate income, or to only residual profits from some (e.g. intangible) assets. See, e.g. Avi-Yonah et al., *supra* note 9; Michael J. Graetz & Rachael Doud, *Technological Innovation, International Competition, and the Challenges of International Income Taxation*, 113 COLUM. L. REV. 347, 417-19, 434 (2013).

[58] A further difference is that formulary apportionment (FA) assumes that the governments of different jurisdictions (i.e. countries or states within a single country) already have the jurisdiction to tax the profits of a business. FA operates only to determine how much should be taxed by each jurisdiction. If a corporation is not treated as having established business nexus with a jurisdiction, FA by a sales-only factor may not give rise to tax in that jurisdiction even if sales are made there. By contrast, DCFT Version 1 may be understood as explicitly recognizing the taxing jurisdiction of any country into which sales to final consumers are made, even in the absence of other forms of business nexus.

proposals to modify the corporate income tax through sales-factor formulary apportionment apply to DCFT Version 1 with equal force. Two such objections will be discussed below, relating to (1) a dilemma arising from intermediate sales, and (2) the need for multilateral collaboration.

1. The dilemma of intermediate sales

A most difficult question for DCFT Version 1 is also the most obvious: how are the corporate profits of firms that sell only intermediate goods and services treated? Without a plausible answer to this question, the proposal is at most half complete, given that most international trade occurs among firms and a substantial portion occurs intra-firm, i.e. within multinational groups.[59] But any attempt to answer the question faces an inescapable dilemma. On the one hand, if profits from intermediate sales are to be taxed on the basis of how such goods and services are used in producing ultimate consumption goods and services and where such consumption goods and services are sold, how is it possible to trace these transactions on intermediate inputs to the final consumer sales? On the other hand, if profits from intermediate sales are taxed in the country of the intermediate business purchaser, then the tax burden on corporate profit will again depend on the place of production (i.e. the location of the user of purchased business input). Both sellers and buyers of intermediate goods and services can gain from reducing the tax on such profits, and the distortions of "source-based" taxation are reintroduced.

Let me elaborate on these two horns of the dilemma in turn. Recall that the main motivation for the DCFT is that the locations of final consumers are relatively immobile. Yet how are these consumer locations to be identified for most corporate businesses that engage in world trade? In connection with proposals to tax corporate income by sales-factor formulary apportionment, Harry Grubert has persuasively suggested that this would be impossible for broad and important classes of goods and services such as industrial components, capital goods, commodities sold on organized exchanges (e.g. agricultural products, metals, and petroleum), and business software.[60] As Grubert puts it: "Where is the consumer for airplanes sold to a Bermuda leasing company, the consumer for microprocessors sold to a [company assembling computers], or copper sold on the London Metal Exchange?"[61] To give a sense of the proportion of the problem, Grubert notes that Bureau of Economic Analysis data on U.S. exports indicate that more than 66% of 2012 U.S. exports were either "Industrial Supplies and Materials" or "Capital Goods". "Consumer Goods" including pharmaceuticals accounted for less than 12%.[62]

Grubert's examples are intuitive and compelling. However, proponents for destination-based taxation (whether of corporate income or corporate cash-flow profit) may persist in believing that linking intermediate suppliers with the place of final consumption is possible, for two reasons. First, they may believe that the destination-based VAT, which is widely adopted by most countries in the world, does succeed in making such linkage. Given that a real-world tax is already destination-based, why can't the income tax or cash-flow tax also be destination-based?[63] Second, it may be thought that the government

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[59] See note 135 *infra*; see also the next paragraph in the text.
[60] *A Mismatch Made in Heaven*, *supra* note 7, at __. Further, capital goods present a particular problem because the destination of the final consumers may change over time. Id, at __.
[61] Id, at __.
[62] Id, at __.
[63] Reuven S. Avi-Yonah, *The Case for a Destination-Based Corporate Tax* (University of Michigan Law School Draft Paper/Jul. 22 2015), available at http://ssrn.com/abstract=2634391).

can rely on taxpayers to use market information to make generalizations about the location of final consumption, even if the identification of such location may not be possible on a transaction-by-transaction basis.[64] An important objective of this Article is to explain why these conjectures must be rejected. In Part V, I explain how the mechanisms by which the destination-based VAT is implemented in fact deploy no information about the place of final consumption. To believe that they do involves conflating two different meanings of the term "destination". Further, I argue in Part VI that unlike information about the residence of individual shareholders, information about final consumers is very unlikely to be transmitted through market mechanisms, and therefore any government requirement to gather such information is unlikely to be implementable. In sum, whether through particular examples or through more systematic reflections, this horn of the dilemma posed by intermediate sales can be shown to be inescapable.

The other horn of the dilemma for DCFT Version 1 is that allocating profits to the jurisdictions where intermediate sales are made easily creates economic distortions and opportunities for manipulation. This has also been convincingly demonstrated by Harry Grubert in connection with proposals to reform the corporate income tax using sales-factor-based FA.[65] Grubert argues that in general, "income shifting under current law and a destination-based system are similar in that highly profitable companies earning excess returns from valuable intangibles have the greatest opportunities. The focus of tax planning changes from the choice of the production location and the manipulation of intercompany payments to the choice of sales locations. The methods companies will use depend in part on whether they produce a component, a capital good or a final consumer good."[66] He gave a wide assortment of examples.[67] For instance, producers of a high-tech industrial component such as a microprocessor may earn high returns on their sales to assemblers, whereas the assembler may earn only a normal return. If the assembler sells into a high-tax country where consumers reside, only the normal return to the assembler is subject to tax. But if the assembler resides in a low tax country, the producer of the high-tech component would be subject to a low tax on its high returns if profits are allocated by the value of intermediate sales. A market preference could thus develop for such low-return intermediate businesses towards the end of the production chain located in low tax jurisdictions. Similarly, producers of high profit capital goods will prefer to sell to lessors or manufacturers in low tax locations. The tax advantage may be so great that the company will have tax-motivated reasons to break the supply chain.[68] Further examples offered by Grubert include using conduit (but unrelated) distributors, franchising, and outsourcing marketing.[69]

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[64] Avi-Yonah et al., *supra* note 9, at 540-3; Reuven Avi-Yonah, *Splitting the Unsplittable: Toward a formulary approach to allocating residuals under profit split* (University of Michigan Public Law Research Paper No. 378/Dec. 19, 2013), at 5.
[65] *A Mismatch Made in Heaven*, *supra* note 7, at __.
[66] Id. at __.
[67] Id. at __.
[68] Conversely, Grubert notes that in the case of an exporter in a high tax country, there is an incentive for a company to have an integrated operation rather than buying components from independent suppliers. This is because the independent component seller would otherwise have been subject to high tax. If the exporter integrates, all the profit could be taxed at tax haven rates. Id, at __.
[69] Id, at __. Avi-Yonah *supra* note 64 questions whether MNCs will always be willing to give up control of distribution. The likelihood and degree of the distortions that Grubert identifies is certainly an empirical question, just like questions about whether MNCs are sensitive to source-country taxes. However, it is enough that Grubert's hypothetical scenarios are far from being empirically implausible.

Grubert's examples make the dilemma arising from intermediate sales concrete and vivid. It is also clear that the dilemma bears directly on DCFT proposals' basic idea of taxing corporate profits by reference to the location of final consumers. However, Grubert draws a different conclusion from his examples. He suggests that "many of the problems [with proposals for destination-based income taxation] result from the fundamental incompatibility of income taxes, in which the timing of income and deductions through accruals and capitalizations is very important, and consumption tax concepts in which they do not play a role."[70] The main "consumption tax concept" he is referring to is presumably the concept of the place of final consumption, i.e. "destination". However, since a corporate cash-flow tax, which does not involve "accruals and capitalizations", faces exactly the same dilemma of implementation if it is designed as a form of sales-factor apportionment, it is not clear why the core tension is between income tax accounting and finding the place of final consumption. In other words, if the other versions of the DCFT can avoid the dilemma of intermediate sales faced by DCFT Version 1, we should not expect that it is because they attain a greater distance from income tax accounting than that first version.[71]

2. The need for multilateral collaboration

A second challenge for DCFT Version 1 also relates to implementation, and is also fairly obvious. Company X, when faced with a tax on its profits imposed by D, has incentives to over-state its costs in O to reduce its tax liability. In order to verify that X's stated costs in O attributable to sales in D are true costs, D's tax authority presumably will need the cooperation of the tax authority in O. By assumption, however, O collects no tax from X if it adopts DCFT Version 1. O's willingness to provide such information to D would thus presumably be based on some kind of reciprocal arrangement. Moreover, since X may be making sales to many countries, its costs need to be allocated to these sales. Multilateral international cooperation in tax administration thus seems necessary to implement DCFT Version 1.[72]

The point of this observation is not to convey the judgment that such international cooperation is impossible in reality. Instead, the question is whether, if such level of international cooperation is assumed to be feasible, DCFT Version 1 still retains any superiority to the current international tax regime (i.e. whether any reform to adopt destination-based taxation is still necessary). Imagine, for example, that O's tax authority agreed to provide information regard X's profits to R's tax authority. R's ability to enforce taxation of the worldwide income of its individual residents (including X's shareholders) would then be much stronger than the ability of countries to do so currently. R would then be free to impose a high income tax rate on its residents, since individual residence is relatively immobile.[73] In the presence of an effectively enforced residence-based international tax system, X will have little incentive

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[70] *A Mismatch Made in Heaven*, at __.
[71] Grubert also asserts that because the profitability (measured using income tax accounting) of exports and imports may differ, given balanced trade the corporate income tax followed sales-factor FA would amount to either a tariff or a subsidy. Id, at __. I do not believe that this is correct, since balanced trade (i.e. zero net import and export) does not imply a zero tax base from trade. It should be noted, however, that if this argument of Grubert's is correct and is an appropriate objection to destination-based income taxes, an analogue of it can be made against DCFT Version 1.
[72] Grubert acknowledges this issue briefly in connection with formulary apportionment proposals for the income tax Id, at 13. Note again that the issue applies with equal force to income and cash-flow taxes.
[73] As discussed in Part V below, this is identical with the proposition that the locations of final consumers are relatively immobile.

to locate its production and profits in low tax countries, given that its ultimate shareholders will be paying the same residence country tax in any case.

Two additional remarks can be made. First, note that the need for multilateral collaboration just described already assumes that O has adopted DCFT Version 1. Previous commentators on proposals to implement the corporate income tax by sales-factor formulary apportionment have tended to give more attention to a different coordination problem: if O does not adopt this type of formulary apportionment and retains source based taxation, X's income would be taxed in both O and D.[74] Advocates for formulary apportionment have suggested that in this situation, O is the country that will back down, since X is more likely to leave O and find an alternative country (including D) to locate production than it is to stop selling to consumers in D. Thus O's adoption of DCFT can be expected to occur unilaterally without coordination. The adoption of DCFT is, in the words of economists, "incentive compatible".[75] However, it is less clear why it is in the unilateral interest of X to provide information to the tax authorities in D (or R). The problem of administrative cooperation is thus the harder problem for formulary apportionment. Second, the argument just given is that if effective administrative cooperation between countries is assumed, destination-based taxation would be *no better* than residence-based taxation. This again highlights the implicit rejection of residence-based taxation made by DCFT proponents.[76] But in Part VI, I will go further and argue that it is *more* likely for administrative cooperation to succeed between O and R than between O and D, given underlying market mechanisms for information transmission. Residence-based taxation, therefore, will turn out to be not just no worse than destination-based taxation, but superior.

III. DCFT Version 2: Still a Tax on Corporate Profits?

1. A VAT with full loss refund and deductions for labor cost

Given the obvious implementation challenges facing DCFT Version 1, it is not surprising that other versions of the tax have been advanced. One such preferred version is succinctly summarized in the Mirrlees Review:

> "A more plausible alternative [than Version 1] would be to organize the tax in the same way as a destination-based VAT. Indeed, value added as measured by VAT is equal to the sum of economic rent and labour income. In a closed economy, a VAT which also gave relief for labour costs would be equivalent to an R-based cash flow tax. All real costs, including labour costs…would be deductible from the tax base. In an open economy, a destination-based VAT which also gave relief for labour costs would be a destination-based, R-based, flow-of-funds tax….
>
> "How would such a destination-based cash flow tax allocate costs between countries? It would relieve those costs in the exporting country in which they were incurred. Just as for VAT, an exporting company would not be taxed on its exports….

[74] Id; Avi-Yonah, *Splitting the Unsplittable*, *supra* note 64, at 3.
[75] Devereux & Vella, *supra* note 3, at 19.
[76] See Part I.4 *supra*.

Any VAT [sic] a company had already paid on intermediate goods would be refunded. A destination-based cash flow tax would need additionally to give a refund to reflect the cost of labour. A company which exported all its goods would therefore face a negative tax liability, reflecting tax relief for the cost of its labour."[77]

Thus under DCFT Version 2, the tax base of a company like X (in the Figure 1 setup) is determined by the tax systems of different countries. In the country of sale (D), only revenue is taken into account, which clearly over-states X's profit. However, in the country of production (O), all production costs (including labor costs) and capital expenditures are subtracted from the tax base. In contrast to DCFT Version 1, whether such costs are correctly stated is verified by O's tax authority alone, without D's involvement.

This may strike many readers as a counter-intuitive way of determining the tax liability of a company's *profits*: if any country wants to tax any taxpayer's profits, surely it has to take into account both the taxpayer's revenue and its costs. If one government (D) looks only at revenue and the other (O) looks only at costs, *who* is taxing the profit? A key goal of this Part is to demonstrate, in a precise way, that this sense of counter-intuitiveness is correct, and that it implies a fundamental objection to DCFT Version 2.

A first clarificatory point that should be made, however, is more straightforward. Cash-flow tax proponents in general—whether of the destination-based or origin-based variety[78]—have tended to suggest that, but for the fact that labor cost is deductible, such a tax is just like a VAT. It is important to stress that this claim is inaccurate, because one key feature of cash-flow taxes is not shared by the VAT,

[77] *ADS 2010*, *supra* note 4, at 883-84. The terminology employed by DCFT proponents is occasionally imprecise. Even under the VAT, an exporter would have a negative liability and is entitled to a refund: there is just no overall negative tax liability when the exporter and its domestic supplier are combined. Under the DCFT, a negative liability arises from the further subsidy to the labor component in the value of the exporter's sales. The following example illustrates. In country O, domestic supplier Y sells intermediate services worth 100 to exporter X. Y has labor cost of 60 and no other cost. X has labor cost of 24 and input purchase of 100, and exports 150 of goods to country D. Row 4 illustrates the tax bases in O under a destination-based VAT for X, Y and the two in the aggregate. Row 5 illustrates the respective tax bases in O if O adopts DCFT Version 2.

		Domestic supplier Y	Exporter X	Aggregate of X and Y
1	Sale	100	150	
2	Cost of input purchase	0	100	
3	Labor cost	60	24	74
4	Tax base under VAT	100	-100	0
5	Tax base under DCFT Version 2	40	-124	-84
6	Tax base under an origin-based cash flow tax	40	26	66

Under both the VAT and DCFT Version 2, X will also have a tax base of 150 in D. Under DCFT Version 2, X's aggregate tax base in O and D is 26 (=150-124), whereas the aggregate tax base in O and D for both X and Y is 66 (=150-84). These numbers (26 and 66) correspond to the last two cells in Row 6, which illustrate the relevant tax bases under an origin-based cash flow tax.

[78] See, e.g. Bradford, *supra* note 4.

namely the full refund of losses. Almost no real world tax systems offer tax credits/subsidies for losses.[79] What bears emphasis is that this is true not only of the income tax, but also of the VAT. In this regard, it is easy to be misled by the fact that for a particular firm, it is possible for VAT input tax credits to exceed VAT payable on sales, with the result that the firm gets a VAT refund corresponding to the excess of its cost of input purchases over its sales. One should not forget that this refund is for the VAT that the firm has previously paid on its input purchases. A VAT refund simply ensures that no tax is collected in excess of the value of a firm's taxable sales. It does not require the government to offer a subsidy to any firm when there is a loss.[80] To put it differently, the VAT taxes consumption even if the consumption is produced through processes generating net losses.

Economists who advocate the cash flow tax (or other similar taxes on corporate rent) insist on the full refund of corporate losses for two reasons. First, the asymmetrical treatment of profit and loss resulting from risk-taking (i.e. profits from lucky outcomes is taxed but losses from unlucky outcomes are disregarded) discourages risk taking.[81] Second, it is difficult to distinguish economic rent from risk-taking for particular firms and investments. When a firm realizes an outsized return, it is generally hard to say how much this is because the firm seized on an unique opportunity, and how much it is just good luck (it is usually both). Only by taking full account of losses in the tax system—by allowing full offset of losses against income and the refund of negative tax liabilities of loss in excess of income in individual firms—can one address these two problems. There is thus decidedly a gap between what theorists recommend and real world taxes.

Cash-flow tax advocates arguably miss this point when they claim similarities—but for the deduction for labor costs—between real-world VATs and the tax they favor in theory. For example, David Bradford suggested that under a VAT, any investment outlays are immediately deducted in the computation of VAT liability. As a result, "the general public shares in the investment and payoffs in proportion to the tax rate [in] making investment decisions, the taxable firm considers its share."[82] This is incorrect, as it obviously implies that the government shares the risk of business loss through the VAT: the government simply doesn't. Insofar as a cash-flow tax requires government to make payments to taxpayers in excess of tax previously paid, this is a major departure from the VAT.

The relevance of this observation is two-fold. First, terminologically, it is more accurate to refer to (portions of) the payment the exporter in O receives from O's government not as a refund, but as a grant or a subsidy. A refund implies tax has previously been paid, whereas under cash flow tax mechanisms, any payment made to the exporter by O's government in connection with wages

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[79] Boadway & Tremblay, *supra* note 16, at 30, briefly mention subsidies for losses under the Norwegian resource rent taxes in the petroleum and hydro power sectors.

[80] This is true not only of the invoice-credit type VAT: it is commonly believed that a subtraction-type VAT should also generally be designed so as not to require the government to be out of pocket overall. ALAN SCHENK, VICTOR THURONYI & WEI CUI, VALUE ADDED TAX: A COMPARATIVE APPROACH 15 ((2d ed. 2015).

[81] Boadway & Tremblay, *supra* note 16, at 12, 30,

[82] David Bradford, *Consumption Taxes: Some Fundamental Transition Issues, in* FRONTIERS OF TAX REFORM 132, 132 (Michael J. Boskin, ed., 1996). This conflation of the theoretical cash-flow tax and the VAT also appears in Bradford's explanations of the economics of transition to a VAT. See the "tomato juice" problem in Bradford, *supra* note 4, at 32-34.

corresponds to no previously paid tax.[83] Second, the labor subsidy for exported goods and services required by DCFT Version 2 raises concerns both regarding trade distortions and WTO-compliance (see the next subpart) and regarding its revenue impact (see Part III infra). If DCFT proponents are willing to describe a version of the tax that functions more like existing real-world taxes and eschews negative tax bases, these concerns will be mitigated to some extent. But the central objection to DCFT Version 2, as expressed in the dilemma articulated immediately below, may remain. Moreover, given that no DCFT proponent has yet considered a version of the tax that does not offer unlimited refunds, this Article does not pursue such variations either.

2. The problem of export subsidies: the first horn of a dilemma

To return to the analysis of DCFT Version 2, consider the following example. Suppose that X produces in country O a unit of a good while incurring material costs of 10 and labor cost of 5. Suppose that the world producer price of the good is 14. All prices are expressed in tax-exclusive terms. X's production of the good is thus unprofitable and loses one dollar per unit. However, under DCFT Version 2, not only would X be refunded all previous tax borne by its non-labor inputs, thus ensuring that the material cost is 10 and no more, but it should also get a grant for its labor cost. Suppose that O's domestic tax rate is 20%. Then X would get 1 dollar of grant from O's government per unit produced. This allows X to break even. It seems, therefore, that the DCFT has the effect of an export subsidy.

This objection to a destination-based cash-flow tax has long been known in the U.S. literature on implementing consumption taxation through a cash flow tax at the business level.[84] The institutional/legal version of the objection is that a destination-based cash-flow tax would be in conflict with the GATT prohibition on export subsidies.[85] For example, under the so-called "X-tax" devised by David Bradford, wage payments are removed from the cash flow tax base of a business (including but not limited to corporations), and are taxed instead to the wage earners at progressive rates capped at the business tax rate. The actual tax collected from wages would thus be less than the reduction in the amount of business tax resulting from the deduction for wages. If an exporting business nonetheless gets a payment from the government equal to the tax rate multiplied by the wage component in the exported products (which includes the wage payment of both the exporter and its domestic suppliers), then the payment exceeds the previous taxes paid and constitutes a subsidy. This was generally regarded as being in conflict with the GATT prohibition on export subsidies.[86] In response, Bradford advocated an origin-basis cash flow tax in order to be consistent with the GATT, notwithstanding the problems (particularly with regard to transfer pricing) this created.[87] It would seem that DCFT Version 2, which contemplates the simple removal of

[83] In the numerical example given in footnote 77 supra, 84 dollars out of the 124 dollars of payments to X represent the grant/subsidy for labors cost incurred by X and Y, while only 40 is a refund of the previous cash flow tax paid by Y.

[84] See, e.g., Grubert & Newlon, *supra* note 4, at 643-44 n.6, n.7; Stephen E. Shay & Victoria P. Summers, *Selected International Aspects of Fundamental Tax Reform Proposals*, 51 U. MIAMI L. REV. 1029, 1050-54 (1997); David Weisbach, *Does the X Tax Mark the Spot?*, 56 SMU L. REV. 201, 213 (2003).

[85] General Agreement on Tariffs and Trade, Oct. 30, 1947, 67 Stat. A-11, T.I.A.S. 1700, 55 U.N.T.S. 194.

[86] In addition, there was a concern that any type of subtraction-type cash-flow tax that does not sufficiently track whether previous purchases of non-labor input have been subject to tax would create export subsidies. See Shay & Summers, *supra* note 84, at 1052-56.

[87] Bradford, *supra* note 4, at 12-13. By contrast, David Weisbach argued that an origin-based cash flow tax was administratively unacceptable, thus the GATT is unreasonable in ruling out an important policy option. However, he

wage payments from the tax base, with no corresponding mechanism to tax the wage component, would generate even greater subsidies. Boadway and Trembaly, in recently proposing an origin-based tax on corporate rent, make exactly this objection to DCFT Version 2.[88]

In the U.S. literature on implementing consumption taxation through a cash-flow business tax, some authors have thought that a relevant defense against this objection is the theoretical equivalence between destination- and origin-based VATs that economists have postulated under restrictive conditions.[89] However, it is easy to see how the requisite conditions for such equivalence do not hold for cash-flow taxes. Among VAT theorists, it is recognized that the most fundamental way in which the equivalence fails for the VAT is that the equivalence requires all commodities be taxed at the same rate.[90] This is far from being the case for real-world VATs because of the prevalence of VAT exemptions. Under DCFT Version 2, different levels of grants/subsidies would be given to different types of exported products, due to the varying proportions of labor value in them. Therefore the uniform tax rate assumption also fails.

DCFT proponents generally appear to recognize this point.[91] Nonetheless, they have mostly simply asserted that there is no export subsidy built into their tax.[92] The most likely argument for this assertion is that the wage subsidy O offers to labor employed in producing exported goods and services may cause the wage in the export sector (and those sectors that supply to the export sector) in O to rise.[93] That is, in the example given at the beginning of this subpart, the wage subsidy would cause X's cost of labor to rise from 5 to 6, and X thus would suffer losses and exit from the market notwithstanding the

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admits that GATT is perhaps not entirely erroneous in suspecting that export subsidies may come into play. Weisbach, *supra* note 84, at 219 (writing from the U.S. perspective, as if it is country O in our example above: "trading partners will rightly claim that we are subsidizing certain exports (although we would be penalizing others because exchange rates would adjust on average).")

[88] Boadway & Tremblay, *supra* note 16, at 47.

[89] See Daniel N. Shaviro, *Replacing the Income Tax with a Progressive Consumption Tax*, TAX NOTES (April 5, 2014) 91, 107-8. The idea of the equivalence is that the difference between (i) zero-rating exports and taxing imports (destination-based taxation), and (ii) taxing exports and allowing business imports to be deducted (origin-based taxation) is neutralized by a single exchange rate adjustment. If this is true, one argument is that the GATT prohibition on export subsidies through direct taxes is theoretically benighted by failing to recognize the economic equivalence between taxes that involve such prohibited subsidies and those that do not.

[90] Only so would the effect of zero-rating for exports and taxing imports be offset by a single exchange rate adjustment. See, e.g. Michael Keen & Walter Hellerstein, *Interjurisdictional Issues in the Design of a VAT*, 63 TAX L. REV. 359, 363 (2010).

[91] *ADS 2010*, *supra* note 4 at 884. Auerbach et al also point to the conditions of (i) no cross-border shopping or labor mobility, and (ii) perfect competition, for the theoretical equivalence between destination- and origin-based taxes to hold. However, the assumption of no cross-border shopping or labor mobility is of course fundamental to the motivation of DCFT proposals. Moreover, in modeling the effect of DCFT Version 2, Auerbach and Devereux also assume perfect competition. *AD 2013*, *supra* note 12, at 5. Thus the primary reason for assuming that the equivalence fails should be non-uniformity of tax rates.

[92] *ADS 2010*, *supra* note 4, at 884 ("…countries would not be subsidizing exports (since the export price would be unaffected)…"). See an equally cryptic dismissal of the export subsidy concern in Michael Devereux & Stephen Bond, *Cash Flow Taxes in an Open Economy* (Centre for Economic Policy Research, Discussion Paper No. 3401/ May 2002), at 23.

[93] Parillo, *supra* note 8 at 320 (quoting Michael Devereux as responding to the objection that DCFT Version 2 gives rise to an export subsidy by claiming "prices would adjust — just like under a VAT — so that the tax is neutral with respect to the location of investment and economic activity.'')

export subsidy. In effect, proponents of DCFT Version 2 may be assuming that labor claims the entire benefit of the subsidy/grant for wage payments—it bears the full incidence of such a subsidy.[94]

The theoretical and empirical validity of such an assumption of the incidence of a tax benefit on labor is not something that this Article purports to evaluate.[95] Instead, the important point here is that this type of assumption may be *necessary* for DCFT Version 2 to deflect the objection that it offers a distortionary trade subsidy. Even in the absence of WTO legal prohibitions, distortionary trade subsidies presumably should be viewed as undesirable, just as distortions of corporate decisions on locations of production and the intensity of capital investments are. The objection that DCFT Version 2 may run afoul of WTO law, therefore, should not be seen as an extraneous critique, but as relevant in DCFT proponents' own terms. However, if it *is* valid to assume that the tax benefit granted to labor under DCFT Version 2 is fully incident on labor—it causes wage to rise by the full amount of the benefit—then a different, and arguably detrimental, objection to DCFT Version 2 arises.

3. Does it tax corporate profits? The second horn of the dilemma

This alternative objection can be seen by considering the question: Does the tax rate in O matter to X under DCFT Version 2? This is an obvious question to ask, since what motivate DCFT proposals are the economic distortions of source-based corporate taxes, under which the tax rate in the country of production (O) does matter.

On the face of it, X's tax liability, as well as the nominal tax rate on its profit, will depend partly on the tax rate in O, and not just on the tax rate in D. For example, suppose D's tax rate is t_D and O's tax rate is t_O (both are expressed in tax-exclusive terms),[96] and that X has R dollars of sales in D ($R^*(1+t_D)$ dollars in tax-inclusive terms), and P dollars of non-labor input cost in O ($P^*(1+t_O)$ dollars in tax-inclusive terms). Assume for the moment negligible labor costs—which means that the immediately following calculation holds for both the VAT and DCFT Version 2, since the difference between the two, when there are no losses, consists in the deduction for labor costs.[97] Then X's net tax payment under DCFT Version 2 would be $R^*t_D-P^*t_O$, as it would be under a VAT. Whether we express this as a

[94] This assumption has not been elaborated in the existing literature on DCFT. In the formal model in *AD 2013*, *supra* note 12, Auerbach and Devereux assume that when a country imposes a tax t on imports, wages and other prices will go up by t. *AD 2013, supra* note 12, at 20. There is no separate discussion of wage and the justification for assuming its rise along with other prices in the model. It is thus unclear whether cash flow tax theorists assume that, as a general equilibrium consequence, wage for labor used for purely domestic production will rise because of the grant for labor used in exported production. Moreover, it is unclear whether an origin-based cash flow tax would have a similar effect on wages.

[95] The economic incidence of taxes on wages such as income and payroll taxes, and of tax benefits such as the earned income tax credit and incentives for employer hiring, is theoretically and empirically controversial. For a recent review, see Emmanuel Saez et al., *Earnings Determination and Taxes: Evidence From a Cohort-Based Payroll Tax Reform in Greece*, 127 Q. J. ECON. 493 (2012).

[96] I use tax-exclusive tax rates and prices, which can be converted easily into tax-inclusive ones. The invoice-credit VAT usually expresses tax rates in tax-exclusive terms, whereas the subtraction-type VAT usually uses tax-inclusive expressions. Devereux & de la Feria, *supra* note 3, at 10-11, state that their proposal does not rely on the invoice-credit method of administration. Many other expositions of the cash flow tax also proceed as though an analogue of the subtraction-type VAT would be adopted. See, e.g. *AD 2013*, *supra* note 12; Bradford, *supra* note 4.

[97] I am grateful to Ed Kleinbard for highlighting this point for me.

percentage of before-tax profit (=R* $(1+t_D)$ - P* $(1+t_O)$) or of after-tax profit (= R-P), the percentage will depend on t_D as well as t_O.

However, the example also shows that whatever values t_D and t_O take, X's after-tax profit will always be R-P. The value of t_O in particular will not change X's bottom line. In this sense, then, the tax rate in O does not matter to X, and therefore will not influence X's location decisions.[98] This simply illustrates the point, made in Part I, that both the DCFT and the VAT (equivalent to the DCFT in the absence of labor costs) achieve neutrality on the location decision margin. But by the same token, it is also evident that whatever tax is levied in D, X's after-tax profit will be the same and equal R-P. *D's tax rate t_D does not matter to such profit, either*.

This is an appropriate property for a destination-based VAT to demonstrate, since the destination-based VAT equates producer prices for all goods sold into a single market, regardless of where the good is produced. But it seems to be a wrong property for any tax that purports to be a tax *on* X's profits to display: the idea of a tax *on* corporate (pure) profit implies that it should alter the amount of profit accruing to the company's shareholders. This surely underlies the idea that a tax on pure profit can be close to 100% without being distortionary. But if a given tax only changes the prices of a company's inputs and outputs (and the amounts of its tax payments), without changing its after-tax profits, then the tax does not bear on profits in the normally understood sense.

Consider now what happens if X's production involves non-negligible labor costs. DCFT Version 2 and the VAT are no longer equivalent. However, if the adoption of DCFT Version 2 by country O, at the tax rate t_O, simply causes the wage level in O to rise by a factor of t, then again neither the tax rate adopted by O nor the tax rate adopted in D will affect the after-tax profit of X. Yet such a tax incidence effect is precisely what DCFT proponents need to assume to deflect objections based on potential trade distortions.

This discussion simply articulates the sense of counter-intuitiveness stated at the beginning of this Part: how can any country tax a business' profit, when it knows either only the revenue or only the cost side of the business' operations? Presumably, the idea of DCFT Version 2 is that O and D's tax policies would have this result in the aggregate, even when the two countries act independently, and each of them indeed has information about only one of the two components that go into the profit calculation. But the closer examination suggests that DCT proponents, by assuming all effects of O's and D's taxes to be reflected in input (including labor) and product prices, have assumed away any possibility for such taxes to affect X's profit. X's profit bears no incidence of either O's or D's tax.

This suspicion can now be pressed against the more theoretical derivation of the properties of the DCFT offered by Alan Auerbach and Michael Devereux.[99] Through a two-country model, they conclude that the "destination-based tax is equivalent to a lump sum tax on the pure profits received by domestic residents."[100] This claim itself actually makes straightforward sense: a regular destination-based

[98] See Devereux & de la Feria, *supra* note 3, at 4 ("It might be thought that [the DCT] would give an incentive to locate expenses in high tax countries. However, in theory at least, this should not occur. The reason is that the price of the intermediate goods or services used by the company would be affected by the tax.").
[99] *AD 2013*, *supra* note 12.
[100] Id, at 20.

consumption-type VAT imposed by country D would tax all consumption by the residents of D, whether such consumption is funded by economic rent and labor income, and regardless of where such rent and labor income are generated. A DCFT that further excluded labor compensation from its tax base would then be equivalent to a tax on domestic consumption financed by economic rent accruing to capital. The problem, however, is that in Auerbach and Devereux's model multinationals are equally owned by resident and non-resident individuals. If a DCFT imposed by D is equivalent only to a lump sum tax imposed on the profit accruing to the capital owned by *D's own individual residents*, then the tax is not a tax on the profit of the multinational making sales into D, since the non-resident owners do not bear the burden of the tax.

Thus it appears that in Auerbach and Devereux's model, if country D adopts a DCFT, it imposes a tax on the corporate profits of foreign companies only insofar as its residents' consumption is financed (partly) out of such profits. If a foreign company's sales to final consumers in D give rise to profits, but such profits do not finance consumption in D, then D imposes no tax on that foreign company's profits. If this is correct, then even if DCFT Version 2 displays all the efficiency properties that its proponents ascribe to it, it seems inaccurate to describe the tax as taxing X's profits.

Is this just semantics? I believe the answer is no. Some substantive, normative promise of "taxation by reference to destination" that is implicit in DCFT proposals is being short-changed. To see this, note that DCFT Version 2 essentially describes a tax on X's profits depending on where the consumption financed by X's profits takes place. In terms of the Figure 1 set-up, D succeeds to tax X's profit not because X sells to D, but because for some of X's ultimate individual owners, the country of residence, "R", happens to be just D. This belies the claim that D succeeds to impose a tax on X' profit by virtue of the fact that X makes sales to consumers there. No part of X's profit is allocated to D, any more than such profit is allocated to O, unless X's ultimate shareholders reside in D. Contrast this with the VAT—a destination-based consumption tax. The VAT is understood to be destination-based in two senses: the rate of tax born by consumption in country D depends only the VAT rate is D; and the revenue from consumption in country D accrues to country D.[101] Consumption in country D bears the incidence of D's tax and revenue moves from D's consumers to D's government. By contrast, under the purported destination-based DCFT Version 2, the profit of X (located in O) does not bear the burden of D (where X makes all sales); nor does any revenue move from X' profit to D's government. The difference is sharp.

4. The continued relevance of DCFT Version 1

Another way of formulation the foregoing concern is that the distribution effects of DCFT Version 2—in terms of the revenue allocable to different nations—could be drastically different from the distribution effects of DCFT Version 1, were the latter implementable (for example, if we assume that there are multiple countries engaged in trade but all imports are for final consumption in the importing country). Of course, it may not be obvious what is intrinsically attractive about the distributive consequences of allocating the right to tax corporate (or all business) profits according to the place of final consumer sales made by the relevant businesses. There certainly have been political interests in changing the allocation of international taxing rights among nations in this fashion. In response to the

[101] LIAM P. EBRILL ET AL., THE MODERN VAT 176-7 (2001).

media expose of the types of tax planning engaged by companies like Starbucks, for example,[102] many intuitively ask: how could Starbucks not pay any tax in the UK when its sales to customers in its UK stores are generating so much profit? However, there may be rebuttals to this question. And even if the implications of the question are accepted, it is still a large further step to allocate taxing rights in such a way that *only* the UK would be taxing Starbucks' profits arising from sales into the UK as "taxation by destination" implies.

Still, destination-based taxation probably holds at least some appeal because of its implications for the distribution of revenue among nations. The analysis of DCFT Version 2, above, however, suggests that people should be disabused of this notion. If all countries adopt DCFT Version 2, the result would simply be a species of residence-based taxation of corporate profits. The countries hosting consumers but not shareholders will not get any greater piece of the pie that is the MNCs' profits.

There is some evidence that DCFT proponents are themselves equivocal about what allocation effects a destination-based tax should achieve. The evidence consists in arguments made for the tax that would be more appropriate for DCFT Version 1 than for Version 2. As discussed in Part II, DCFT Version 1 faces seemingly insuperable implementation problems. These problems do not threaten DCFT Version 2, which may seem to be an important reason to distinguish them. However, DCFT proponents tend to run the two versions together. For example, Michael Devereux and Rita la Feria, in a working paper that mainly elaborates on Versions 2 (and 3, discussed in the next Part) of the DCFT, offer an extended discussion of whether the country of destination can legitimately claim "substantive tax jurisdiction" over the profits of foreign corporations.[103] It is easy to see how such a question can arise for DCFT Version 1.[104] But it is very hard to see how this question even arises for DCFT Version 2, given the latter's analogies to the VAT: that the destination country has "substantive tax jurisdiction" over imported goods and services seems undisputed. Thus Devereux and de la Feria must have had DCFT Version 1 in mind in their "substantive tax jurisdiction" discussion.

Yet another example is where Devereux and de la Feria suggest that, to avoid the implementation problems if the DCFT were applied only to corporate entities, the tax should be applied to all businesses subject to a threshold, but in the case of non-corporate entities subject to flow-through taxation, the tax should be creditable against personal income tax.[105] This suggestion would not make sense, if the incidence of the DCFT (Version 2) imposed by D does not fall on the owners of the business (X) subject to the DCT.[106] Giving them a credit for the net tax payment in D and O would only generate a windfall.[107] This suggestion does make sense, however, if the authors had DCFT Version 1 in mind. Under DCFT Version 1, the sense in which the tax imposed by D on X is a tax on X's profits is as unambiguous as a

[102] See Edward D. Kleinbard, *Through a Latte, Darkly: Starbucks' Window into Stateless Income Tax Planning*, 139 TAX NOTES 1515 (2013).
[103] Devereux & de la Feria, *supra* note 3, at 11-14.
[104] In the example used above, X may have no business contact with (e.g. no office or operation in) country D other than making sales to final consumers in D.
[105] Devereux & de la Feria, *Supra* note 3, at 14.
[106] The discussion above suggests that it is only when the country of the owners of the business imposes a DCFT that such owners are subject to the burden of the tax.
[107] In addition, as discussed in Part I.3 supra, crediting shareholders for firm level taxes under a cash flow would not be justifiable by reference to the nature of the tax as an anti-deferral device. A cash flow tax simply cannot play the role of such a device.

tax imposed by O. Moreover, assuming that the cash flow computation of X's profits captures the (non-labor) economic rent earned by X, the incidence of the tax should be on the claimant of the rent, i.e. X's owners.

To sum up: as explicated by its proponents, a DCFT imposed by a country into which final consumer sales are made has no incidence on the profit of the foreign MNC making the sale, as long as the shareholders of that MNC do not reside in such country. When the MNC's profit bears the burden of the DCFT, it is the burden of the DCFT adopted by the country of the MNC's shareholders. Similarly, any tax collected from the MNC's profits under the DCFT is collected by the country where the shareholders reside. Such a tax, wherever adopted, may be neutral with respect to the MNC's investment decisions (provided that it does not distort trade through export subsidies). It may also be progressive when adopted in the country where the MNC's shareholders' reside. But its progressivity, and its ability to transfer funds from corporate profits to governments, obtain only in the country of residence, not in the country of destination *qua* the country of destination.

IV. DCFT Version 3: Taxing Exports at the Origin, but at the Destination Country's Rate

Devereux and de la Feria have described a variation of DCFT Version 2, which I will treat as a distinct proposal in this Part. Under DCFT Version 3, the country of production and export (O) would actually collect tax on its exports, but at the DCFT rates set by the countries (e.g. D) to which goods and services are exported.[108] The exporter, like other producers in O, will still be allowed to deduct the costs of material inputs and labor, though at O's tax rate and not those of "destination countries".[109] This will ensure that the profit of company X is still taxed to exactly the same extent as it is under DCFT Version 2. The incentives of X in making its corporate decisions remain the same, as (presumably) do the effects of the tax, as adopted in O and D, on prices in both O and D. The only difference is that unless the government of O transfers to the government of D the revenue the former collects on exports made to D, it will have more revenue. In particular, exports to D would no longer generate a negative tax base for O. DCFT Version 3 thus preserves the efficiency but not the distributional properties of Version 2.

This variation of the DCFT is similar to proposals for implementing the destination-based VAT on an origin basis within the European Union.[110] Devereux and de la Feria note certain administrative advantages of implementing the DCFT this way,[111] but attribute its main advantage to the following purported problem. They believe that the strongest reservation one might have against DCFT Version 2 is

[108] Devereux & de la Feria, *supra* note 3, at 10.
[109] I put the term "destination countries" in brackets because the VAT-like mechanisms envisioned here even the countries to which goods and services are exported are not where the relevant final consumption will take place. Speaking of "destination countries" here thus blurs two distinct meanings of "destination". See Part V *infra*.
[110] Id. at 19-20. Note that for DCT Version 3, the question of the "substantive tax jurisdiction" of D discussed by Devereux and de la Feria should not arise, since country O would be collecting tax on its own exporters. The discussion of that question thus suggests a conflation of DCT Version 3 with Version 1. See note 103 *supra* and accompanying text.
[111] Id. at 10, 22. These advantages include the potential of preventing types of fraud observed under the destination-based VAT system from arising under the DCFT. However, insofar as DCFT Version 3 contemplates country D allowing deductions to importers even when it does not know whether the seller/exporter has reported the revenue to O, there would be serious administrative concerns.

that for countries with net exports, the exclusion of wage payments from the tax base—and government grant associated with such payments in the export sector—would be too much of a drain on O's revenue.[112] This, in turn, presents a concern presumably because O would be less likely to adopt DCFT Version 2 (due to the implication of a negative tax base)—DCFT Version 2 would then not be "incentive compatible".[113]

Both the purported problem identified by Devereux and de la Feria and its apparent solution are somewhat puzzling. First, note that the negative tax base problem may be secondary for those countries whose net exports are small relative to the country's GDP—there would be a large enough domestic tax base to absorb the negative tax base from international trade.[114] This suggests that it may be possible for at least a subset of countries—those that have roughly balanced trade and those that can tolerate the negative tax base arising from traded goods and services—to adopt the DCFT. It is not clear, then, why Devereux and de la Feria regard the negative tax base problem for net exporters as so important. Second, even if there are countries whose adoption of DCFT Version 2 is important for the adoption of the tax generally, and even if these countries may be prevented from such adoption because they have large positive trade balances relative to their domestic tax bases, adopting DCFT Version 3 simply create a mirror problem. There may be net importer countries whose negative trade balances are large relative to their GDPs. Suppose D is such a country. Under DCFT Version 3, D would still need to allow deductions for imported input goods and services, even though no tax is collected on them (O, by assumption, collects tax on the sales into D and retains the revenue). D thus would face a similar issue of aggregate negative tax liabilities. D, therefore, may not adopt the DCFT. DCFT Version 3 would then be no more incentive compatible than Version 2 (if the problem of negative tax base from trade is taken seriously).

Devereux and de la Feria also suggests a further variation of DCFT Version 3, in which O transfers the revenue it collects on exports made to D back to D. In this case, both the efficiency and distributional consequences of DCFT Version 3 would be the same as DCFT Version 2. O will simply have collected tax on behalf of D. The problem with this suggestion is not only that it is highly unclear how it improves upon DCFT Version 2.[115] More importantly, it raises a fundamental question: should revenue transfers among nations be assumed to be feasible in discussing the design of international taxation? Other scholars have argued that binding national budget constraints are a core assumption that defines the problem of international taxation. For example, Michael Keen and David Wildasin have shown that if countries can transfer revenues among themselves, the Pareto-optimal international income tax design would be residence-based.[116] This is because residence-based taxation would guarantee that production efficiency is achieved and global output is maximized, and revenue transfers could then be used to achieve the desired pattern of distribution among nations. Administratively, this can be conceived

[112] Id, at 10, 21. See also *ADS 2010*, *supra* note 4, at 884.
[113] Devereux and Vella, *supra* note 3, at 19.
[114] For example, the negative tax base problem was not emphasized when U.S. scholars and policy analysts debated in the 1990s about the adoption of a destination-based cash-flow tax on businesses (as a way of implementing the consumption tax), whereas the subject of export subsidies was. Perhaps this was because the U.S. was—and expected to be for some time to come—a net importer. But it could also be that any net export would be small relative to the size of the overall U.S. economy.
[115] If it is bad enough that O may have a negative tax base from net exports, it seems even worse for O to be collecting tax on behalf of D.
[116] Keen & Wildasin, supra note 29, at 264-68.

as a matter of source and residence countries coordinating to administer only one set of taxes—those taxes imposed by residence countries. Source countries would not aim to collect any taxes for themselves from non-residents, but only to assist residence countries. The distortions of source-based taxation would then disappear. In exchange, source countries would rely on revenue transfers to cover their budget deficits.

This hypothetical arrangement may have some resonance within the European Union, whose member countries have been engaged in administrative coordination and (more limited) revenue transfers both in the VAT and individual income tax areas.[117] However, if Keen and Wildasin is correct that binding national budget constraints are the *defining* feature of international taxation, then the feasibility of such arrangements should not be assumed more generally. To assume such feasibility for implementing the DCFT would simply assume away, rather than solve, the fundamental problems of international taxation.

V. Does Introducing "Destination" Expand the Range of Policy Options?

Parts III and IV above argued that the most important problems for DCFT Versions 2 and 3 are conceptual in nature. By contrast, DCFT Version 1 seems conceptually coherent, and the dilemma (arising from intermediate sales) presented in Part II.1 may appear to be about implementation. This Part and the next will show that the implementation problem has deep conceptual roots. The main question is: how does bringing the country of destination into consideration in assigning income tax jurisdictions broaden the range of international tax policy options?

To start, it is important to note that, theoretically, there is a close conceptual affinity between residence-based individual income taxation and destination-based consumption taxation.[118] This affinity is not widely recognized, but is easy to explain. It is typical to think of a tax on the return to savings as a schedule of taxes on future consumption, with the tax rates higher for acts of consumption that occur further in the future.[119] Thus when a resident country chooses a tax rate on the capital income earned by its individual residents (which may be different from the tax rates chosen by other countries for their respective individual residents), it may be viewed as adopting a distinct set of future consumption tax rates for its residents. Destination-based consumption taxation, of course, is also a matter of setting distinct tax rates for acts of consumption that occur within different jurisdictions. Both residence-based capital income taxation and destination-based consumption taxation thus can be thought of as determining cross-country differences in consumer prices.[120] Conversely, source-based capital income taxation can be

[117] See Harry Huizinga, *Commentary on ADS 2010*, *in* DIMENSIONS OF TAX DESIGN: THE MIRRLEES REVIEW 894 (Stuart Adam eds., 2010); (discussing a policy in the EU of "promot[ing] an 'orderly,' non-discriminatory residence-based tax system" within a framework of international coordination).
[118] See Keen & Wildasin, *supra* note 29 at 268.
[119] Anthony B. Atkinson & Joseph E. Stiglitz, *The Design of Tax Structure: Direct versus Indirect Taxation*, 6 J. PUBLIC ECON. 55 (1976).
[120] At the same time, they allow producers from all over the world to equate their producer prices, ensuring production efficiency. This is familiar, in the income tax context, from the claim that capital export neutrality (CEN) ensures that capital is allocated to its most efficient use. For consumption taxation, it is the basic theoretical argument in favor of destination-based taxation. Id, at 260-1. Keen & Wildasin shows that production efficiency is neither a necessary nor a sufficient condition of Pareto-optimal taxation.

thought of as creating systematic differences across countries in producer prices: different source countries must generate different pre-tax returns in order to offer the same after-tax return to investors. This is also the effect of "origin-based" commodity taxation.[121]

Once this affinity between residence-based individual income taxation and destination-based consumption taxation is recognized, one can ask: how can destination-based taxation fix problems in international taxation that cannot be fixed by residence-based taxation? In particular, the roles of individuals as residents of a given country and as consumers within that country essentially overlap. Indeed, in theorizing about consumption taxation, the country of "destination" is often defined as the country where the consumers reside.[122] It is also a premise of DCFT proposals that consumption activities are largely immobile. If a tax system can deploy information regarding individuals qua consumers, why shouldn't it be able to deploy information regarding individuals qua consumers?

The difficulty, even infeasibility, of the latter is the prevailing assumption made by those who theorize about international corporate taxation today.[123] It might be thought that the difference is that it is easier to identify the timing of consumption than the timing of income. But if the challenge of residence taxation is mainly about timing, then a variety of devices are available to deal with deferral. For example, interest may accrue on tax liabilities that are deferred. This practice has been adopted in the U.S.' rules for taxing income earned through passive foreign investment companies (PFIC),[124] and is more generally proposed in the domestic taxation context for taxing capital gains.[125] Moreover, as noted in Part I.3 supra, any proposal for corporate tax reform that removes the normal rate of return from the corporate tax base necessarily deprives corporate taxation of the ability to prevent shareholder deferral.

If the challenge of resident individual income taxation lies not with the prevention of deferral, it must be conceived as a matter of jurisdiction and enforcement. In particular, much foreign wealth of resident individuals may be held in the form of foreign entities, the resident country generally lacks jurisdiction either to tax these entities or require them to provide information regarding income accruing to (or even just asset indirectly held by) the country's own residents. Yet these same jurisdictional and enforcement constraints also hold in the indirect tax context. It helps to remember that the current international consumption and income tax regimes apply to the *same* patterns of world trade and investment. Nonetheless, DCFT proponents seem to believe that the current international consumption tax regime is somehow better able to gather information about consumers from these patterns than the income tax regime is able to gather information about residents. They appear to take the position that while the prevalent practice under the VAT for taxing cross-border transactions—which is "destination-based"—is

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[121] Because commodity taxation, including the VAT, normally disregards financial flows, the concept of the "origin" of a taxable supply under the VAT and other commodity taxes is generally narrower than the concept of "source" of income under income taxes, since "source" is a concept used to allocate taxing jurisdiction for income from labor as well as from financial capital, in addition to income from businesses.

[122] For the distinction between two different meanings of destination, see notes 128-131 *infra* and accompanying text.

[123] See, e.g. *ADS 2010*, *supra* note 4, at 880; Rachel Griffith, James Hines & Peter Birch Sorensen, *International Capital Taxation*, *in* DIMENSIONS OF TAX DESIGN: THE MIRRLEES REVIEW 914, 915-16, 982-83 (Stuart Adam et al. eds., 2010).

[124] 26 U.S. Code § 1291.

[125] Alan J. Auerbach, *Retrospective Capital Gains Taxation*, 81 AM. ECON. REV. 167 (1991); Noel B. Cunningham, *Observations on Retrospective Taxation*, 53 TAX L. REV. 489 (2000).

still imperfect at identifying place of consumption, it does succeed in doing so to enough of an extent that incorporating similar information about destination into the corporate tax may expand the range of policy options.[126] In the lingo favored by these authors, destination, a concept deployed in indirect taxation, can serve as a "proxy" for the place of consumption.[127]

Yet this purported benefit of introducing the concept of destination is illusory. The error committed can be described in two ways. First, it is useful to draw a distinction between the economic characterization of the "destination principle" and the institutional/legal characterization of a principle by the same name. These are, in substance, two entirely different principles. According to the economic characterization, the destination principle "means that the total tax paid in relation to a commodity is determined by the [tax] rate levied in the jurisdiction of its final sale… [and] that all the revenue accrues to the government in the jurisdiction where that sale occurs."[128] Understood this way, the destination principle can be implemented not just through the VAT but also through a retails sales tax, under which sales and only sales to final consumers are taxed at the rate of the country of residence of the consumers. That is, the "destination principle" in the economic sense can be perfectly realized if all business-to-business (B2B) transactions are ignored. Yet if the destination principle, *in this economic sense*, had been implemented by a retail sales tax, we would not know the destination principle as it is normally understood, *institutionally and legally*, in connection with the VAT, i.e. the zero-rating of exports and taxing of imports.[129]

While it might seem unnecessary to belabor the foregoing distinction, the identification of "destination-based" taxation with the institutional mechanism of zero-rating exports is transparently assumed in both Versions 2 and 3 of DCFT proposals. Further, these proposals assume that zero-rating carries information about place of consumption. To be fair, it is not just DCFT proponents who make this assumption. For example, Michael Keen and Walter Hellerstein, writing purely about VAT design, acknowledge that "it is [individual] consumption…that underlies both the expression of and the rationale for the destination principle [characterized as an economic principle]. That principle is therefore entirely silent on which jurisdiction should tax business-to-business (B2B) transactions, which needs to be resolved by administrative concerns."[130] Nonetheless, they insist that "destination"—to which countries goods and services are exported—serves as a proxy for consumption: "The destination principle is a rule

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[126] Devereux & de la Feria, *supra* note 3. Again, what is purportedly relevant is that information about place of consumption is introduced into the tax regime, and not how the information is used (e.g. whether to tax consumption or to allocating taxing right on corporate profits).
[127] The idea that destination is a proxy for consumption is endorsed in Keen & Hellerstein, *supra* note 90, at 366-368.
[128] EBRILL ET AL., supra note 101, at 176.
[129] See, e.g., SCHENK, THURONYI & CUI, *supra* note 80. The distinction between these two different meanings of the "destination principle" can be seen through the fact that the zero-rating of exports is neither necessary nor sufficient for realizing the destination principle under the economic characterization. It is not sufficient, since whether final consumption is properly subject to taxation in the country in which it occurs depends on further tax collection on subsequent transactions. It is also not necessary, since imposing a positive tax on cross-border sales to final consumers is another (actually adopted) method of tax collection. Similarly, taxing imports is neither necessary nor sufficient for taxing final consumption in the country of import. For imports by taxable suppliers (i.e. those that are not exempt from the VAT), taxation or non-taxation of imported input purchases makes no essential difference. And whether final consumption is properly taxed depends on tax collection by the importing suppliers or suppliers further downstream.
[130] Keen & Hellerstein, *supra* note 90, at 367 (they emphasize that "the considerations that should guide decisions on the place of taxation for border-crossing B2B transactions ultimately must be pragmatic.").

of tax administration that seeks to approximate the location of consumption in a sensible and administrable fashion."[131] This conflation, unfortunately, is no less erroneous by being not unique to DCFT proponents.

Second, while there are particular rules under the VAT laws of different countries that attempt to identify the place of individual final consumption, it would be erroneous to assume that this is what VAT "place of supply" or "place of consumption" rules do in general. Generally, VAT rules implement a tax on consumption not by identifying consumption activities, but by identifying the opposite—business activities. In technical terms, what is crucial to VAT is not the imposition of tax on sales, but the allowance of deductions for input purchases to businesses. Therefore, as a general matter, both sales to business and to individual consumers (i.e. B2B and B2C transactions) are subject to tax, but only businesses can claim deductions. And because consumption activities generally do not qualify as businesses and therefore do not give rise to deductions, they end up bearing the burden of the VAT. The legally intensive effort to delineate between consumption and non-consumption under VAT laws takes the form chiefly of distinguishing between business and non-business activities on the side of the purchaser, not of distinguishing, on the part of the seller, between different types of sales. It is within this general context that zero-rating under the VAT operates. Indeed, the mechanism of zero-rating is often adopted under VATs within purely domestic contexts.[132] The point of such mechanisms is generally to ensure there is no tax-induced distortion in the business decisions of the purchaser.[133] Zero-rating in the cross-border context serves exactly the same function, namely avoiding distortions in B2B transactions—*not* taxing final consumption.

How, then, have the zero-rating of exports and taxing of imports for B2B transactions resulted in final consumption being taxed largely where it occurs? The explanation is rather simple. First, relatively few consumer goods traditionally have been directly imported by retail customers; most importation of goods has involved B2B transactions.[134] Second, most consumption services are traditionally supplied domestically. These two facts have allowed a set of rules mainly governing cross-border B2B transactions to work. But where either goods or services are supplied cross-border directly to final consumers, the enforcement of the VAT becomes much more challenging, and the VAT has no advantage over the retail sales tax in relation to such supplies. Indeed, for cross-border supply of services to final consumers, the destination principle—understood in the economic sense—has, at least up till now, been largely unenforceable. It thus seems inaccurate to suggest (as the idea of "destination as proxy" does) that somehow, the destination principle as embodied by the VAT has already incorporated information about place of final consumption.

The preceding two arguments make references to features of VAT law to explain why it is implausible to view VAT mechanisms as embodying "proxies" for the location of consumption. There is an even more intuitive argument. "Destination", as used under VAT law, simply denotes the location of

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[131] Id.
[132] See SCHENK, THURONYI & CUI, *supra* note 129, at 260-9.
[133] If zero-rating is used in connection with sales to final consumers (as in the zero-rating of food in a number of countries and the zero-rating of housing sales in the U.K.), the policy intention is precisely the non-taxation of consumption. Where the policy intent is to tax consumption, zero-rating is not the mechanism to accomplish it.
[134] This pattern itself may change, as a result of platforms like Alibaba.com which match manufacturers and final consumers from different countries directly with one another.

the customer in cross-border transactions. However, if one-third of international trade takes place between related entities in multinational groups,[135] and if in countries like the U.S. over 90% of imports flows through only a sub-group of firms,[136] "the customer" in a cross-border transaction is only in a very small percentage of cases an individual consumer. How then could we expect the concept of destination, which corresponds to the location of all customers, to be a proxy for the place of final consumption?

In summary: what is at issue in the preceding arguments is not whether VAT mechanisms deploy sufficient information so as to *always* identify places of consumption.[137] It is instead whether basic VAT mechanisms deploy *any* identifying information regarding places of consumption. If they do not, DCFT proponents have yet to offer a single example of a mechanism that links a specific instance of corporate production with ultimate consumer purchases in another country.

This is not to deny that governments and specialists in VAT design have been working to develop rules and administrative practices that would more successfully tax cross-border B2C transactions (whether on a destination or origin basis).[138] Such rules and practices will likely incorporate more information regarding the place of final consumption than do traditional VAT rules. It is no exaggeration, however, to say that such relatively recent efforts pale in comparison with the massive resources that governments and taxpayers have for half a century poured into, and continue to pour into, developing rules and administrative infrastructures for residence-based income taxation of individuals. I have in mind here U.S. controlled foreign corporation (CFC) and PFIC rules, and their counterparts in Canada, Australia, Germany, France, and other countries,[139] as well as more recent efforts by governments to collect information regarding offshore accounts that require disclosure of beneficial ownership that look through corporations. That is, real world income tax systems already deploy a lot of information regarding, for given individuals, what foreign corporations own, and for given corporations, what foreign shareholders they have. Such information is also widely deployed in financial regulations outside the income tax. In the final Part of this Article, I explain why this may not be accidental, and why it has a surprising implication for reforming international corporate taxation.

VI. The Information Superiority of Residence-Based Taxation

By its nature, the VAT applies only to the supply of goods and services. Simple reflection suggests that the sale and purchase of goods and services generally transpire in such a way that parties need not know the identities of their counterparties, or any case do not retain information about such

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[135] Andrew B. Bernard, J. Bradford Jensen & Peter K. Schott, *Importers, Exporters, and Multinationals: A Portrait of Firms in the U.S. that Trade Goods*, *in* PRODUCER DYNAMICS: NEW EVIDENCE FROM MICRO DATA 513 (Timothy Dunne et al. eds, 2009).
[136] Id. at 534.
[137] DCT proponents are clear that they do not intend to rely exclusively on VAT rules to determine the "destinations" by reference to which corporate profits are taxed. Devereux & de la Feria, *supra* note 3, at 9.
[138] For the work of OECD Working Party No. 9, see Keen & Hellerstein, *supra* note 90, at 373-382; for references to other recent European developments, see Devereux & de la Feria, *supra* note 3, at 19-20.
[139] See HUGH AULT & BRIAN ARNOLD, COMPARATIVE INCOME TAXATION: A STRUCTURAL ANALYSIS (2010), Part Four, Subpart A, Section 4.

identities.[140] The identities of transacting parties are relevant only when such transactions implicate particular types of legal relationships, e.g. the relationship of agency. If any information is retained (think of the simple store receipt), it tends to be information about the seller kept by the buyer, not the other way around. In contrast, it seems that by their nature, the establishment of financial claims—including debtor-creditor relationships and equity ownerships—generally requires the knowledge of mutual identities. Parties that have financial claims against one another generally do not remain anonymous. Where they do, they are connected through a chain of non-anonymous agency relationships.[141]

I am not aware of any general legal theory either identifying or explaining the tendency towards anonymity displayed by transactions in goods and services, even though that tendency seems to be recognized, for example, in the view that any commodity tax cannot hope to be progressive, because the sellers collecting such a tax would not be able to keep track of who the purchasers are and what tax brackets they are in.[142] It is possible, however, that no deep theory is needed. The difference, in respect of the maintenance of identity (or anonymity) of transacting parties, between non-financial transactions and transactions establishing financial claims[143] could lie in the simple fact that financial claims by definition persist over time. Therefore the parties need the identities of their counterparties to locate them later on.[144] Similarly, transactions in goods and services require the keeping of identities only insofar as they create claims over time (e.g. warranty for defective products).

If the foregoing reasoning is as sound as it appears, then it becomes obvious why the VAT transmits no information about final consumers. Even sellers making sales to final consumers directly in person generally will know very little about their customers—whether they are buying for final consumption, where they reside, or any number of other characteristics. *Ipso facto*, such information cannot be transmitted by the sellers to upstream sellers. The difficulty of envisioning tracing intermediate sales to final consumption (posed as the second horn of the dilemma for DCFT Version 1 in Part II.1 *supra*) has its fundamental root here. This is not to say that governments cannot require sellers to obtain information about buyers (as they do for the sale of firearms), or that sellers cannot conduct market surveys about who their customers are. It is only to say that obtaining information about customers either individually or collectively is, most of the time, not an intrinsic part of, but an addition to, transactions in goods and services. Such information gathering, therefore, introduces costs that are not originally present on market activities.

By contrast, share ownership is a type of financial claim, and therefore the basic market conditions for the transmission of mutual identities (either from corporations to shareholders or from

[140] For present purposes, the only relevant aspects of the identities of transacting parties are whether purchasers are individuals and where they reside. The latter information is, of course, subject to the ambiguity of the notion of residence. Such ambiguity, however, is not relevant in comparing the relative merits of destination-based and residence-based taxation.

[141] For a recent discussion in the tax literature of such relationships, see Reid Thompson & David Weisbach, *Attributes of Ownership*, 67 TAX L. REV. 249 (2014).

[142] Compare this with employers being required to keep track of the tax profiles of their employees under systems of exact withholding on wage payments. See U.S. DEPARTMENT OF TREASURY, RETURN-FREE TAX SYSTEMS: TAX SIMPLIFICATION IS A PREREQUISITE (2003), available at www.ustreas.gov/offices/tax-policy/library/noreturn.pdf .

[143] A currency exchange action may not establish a financial claim, and therefore can be anonymous.

[144] It is thus the time dimension, not whether a type of transaction occurs on a market—where there are multiple buyers and sellers—that matters.

shareholders to corporations) are always present, regardless of whether governments impose any requirement to gather such information. All that the government has to do in tax and financial regulations is to harness such information. It may be that a regulatory regime at a given point in time does not harness such information. For example, Chris Sanchirico has argued that under current U.S. securities law and regulations, not much is known about the nationalities of the owners of the shares of listed companies (including those that are purportedly "American").[145] This is an interesting fact to establish, but ultimately it seems to be just a contingent fact that happens to characterize a changing regulatory system at the present time. There is little dispute that a listed company is connected to its ultimate shareholders through a chain of non-anonymous relationships.[146] Some parties in the chain may have incentives not to transmit the information they possess to the government or other parties: harnessing the information is a matter of changing such incentives. But it is not about making market participants collect information that they would not otherwise have any use for.

If this is correct, then the most fundamental conceptual question for DCFT proposals is whether corporate profits should be taxed by reference to information embodied in financial claims or information pertaining to the sales of goods and services. The residence of shareholders is an example of the former. The location of consumers ("destination") is an example of the latter. Since individuals' residence and their place of consumption largely overlap, the choice between residence and "destination" essentially boils down to which is the most effective channel of transmitting the same information. The foregoing discussion implies that the by far more plausible answer is residence, not "destination". Evidence from real world tax systems is perfectly consistent with this assessment: on the one hand, the VAT (which is typically "destination-based", but in a different and irrelevant sense) relies little on information about the location of final consumers; on the other hand, income tax systems designed to prevent the deferral or evasion of obligations to report foreign income try precisely to connect assets and income with their claimants.

Why, then, has individual-residence-based taxation generally been assumed to be infeasible in recent corporate tax reform proposals, whereas proposals for destination-based taxation is able to command interest and attention? One possible explanation is the following. Taxing corporate profit by reference to residence can be understood in two different ways. The first, more traditional understanding is to tax individual shareholders on income earned through (domestic and foreign) corporations.[147] To do so, the government must possess two kinds of information: first, where (i.e. in which foreign countries) the individual shareholder has assets and income; and second, how much income the individual has from each source. The first type of information pertains to the identities of parties involved in chains of financial claims (and agency relationships). Therefore gathering it is, as argued above, a matter of the government harnessing information the market already has (though possibly against the resistance of tax evaders and third parties willing to assist such evaders for a profit). The second type of information pertains to the substance of the financial claims themselves, and not just the identity of the transacting

[145] Chris Sanchirico, *As American as Apple Inc.: International Tax and Ownership Nationality*, 68 TAX L. REV. 207 (2015).
[146] Thompson and Weisbach, *supra* note 141.
[147] Note that the basic assumption of this understanding is that individuals should be taxed on an accrual basis under an income tax. Taxing individuals when they receive dividend distributions from foreign corporations would raise no difficulty of implementation.

parties. The purported impracticality of taxing individual shareholders on a residence basis has had to do as much with the second type of information as the first. For example, the U.S. has three alternative regimes for shareholder taxation of investments in PFICs: the mark-to-market method, the flow through method, and deferral with interest. The first method can be applied only for publicly traded entities. The second requires the supply of financial information by foreign corporations to U.S. shareholders, which is not always practical.[148] The third approach applies where the first two approaches fail,[149] but may itself be open to other objections.[150] The challenges relating to the gathering of this second type of information have not dissuaded all from residence-based shareholder taxation, [151] but they seem to have done so to many.[152]

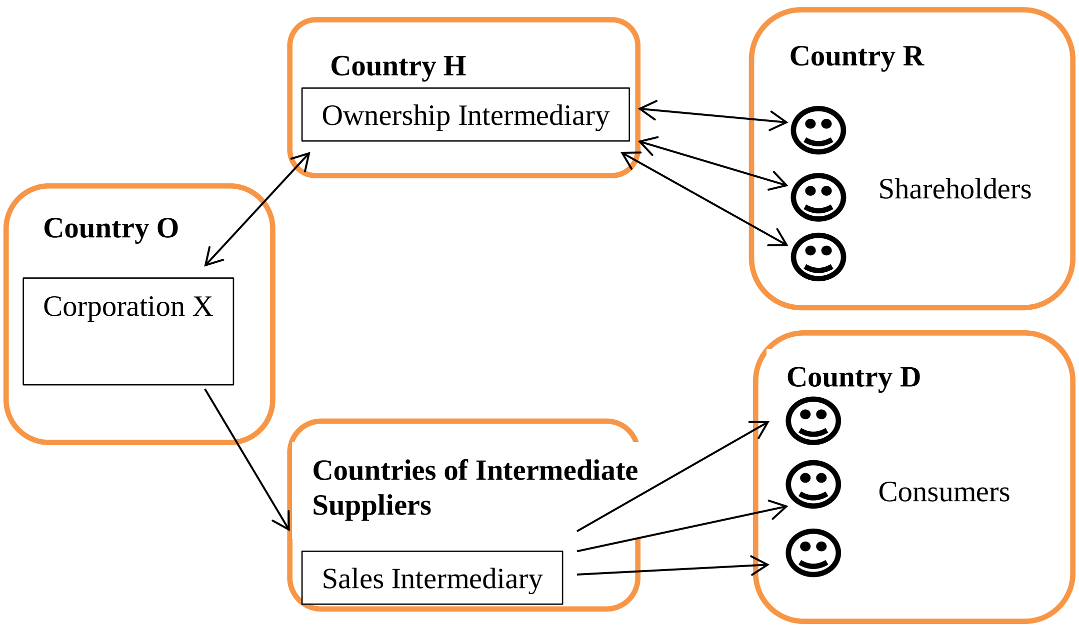
But there is an alternative way of understanding the notion of taxing corporate profit by reference to residence. On this second understanding, corporations are the taxpayers, and how their income or profit is taxed should depend on the residence of the corporations' ultimate shareholders. If corporate income or profits can be taxed in this way, then the neutrality criteria that motivate the DCFT can be satisfied. For such taxation to be feasible, only information about the identities—or, even more narrowly, the tax residence—of the shareholders is needed. There is no need to apportion income or profits to individual shareholders. For this approach to work, in other words, only the first of the two types of information that the traditional approach of residence-based individual taxation relies on is needed. Presumably, its feasibility is correspondingly greater than the traditional approach.

What has just been described is a form of formulary apportionment that taxes corporate income or profit according to where the corporation's ultimate shareholders reside. This policy option has received almost no discussion in the international tax literature,[153] but it follows directly from the intuitions of DCFT proponents. Figure 2 illustrates how. For any multinational company X, two sets of facts can be viewed as fixed: (1) who the ultimate suppliers of its equity capital are, and in particular, in which country they reside; (2) who the ultimate consumers are that purchase the goods and services that X contributes to producing, and, again, where they reside in particular. If X's profit can be taxed by reference to either set of facts, then the problems created by the combination of source-based taxation and capital mobility go away. DCFT proposals suggest the use of the second set of facts. However, tracing the sales of X to the places of final consumption is, for basic and simple reasons discussed above, infeasible.[154] By contrast, tracing X's profits to the place of ultimate shareholding is fundamentally feasible. Therefore, many of the

[148] Kleinbard, *supra* note 38, claims that the superiority of his BEIT proposal lies in part in avoiding such impracticality.
[149] 26 U.S. Code § 1291.
[150] Kleinbard, *supra* note 38, at __.
[151] TODER & VIARD, *supra* note 30, at 42, makes exactly such a proposal to tax shareholders on an accrual basis (either through mark to market or through flow-through taxation). They essentially argue for the abolition of the corporate income tax, not its reform.
[152] See *ADS 2010*, *supra* note 4, at 880.
[153] See TODER & VIARD, *supra* note 30, at 25 ("A potentially even more attractive method would allocate the corporation's income in proportion to where its stockholders reside. We are not aware of any literature that discusses this approach and we are not sure whether it would be practical... [The] problems may not be insurmountable and we recommend further efforts to examine whether and how such an allocation method could be made operational.")
[154] The VAT-like mechanisms of DCFT Versions 2 and 3 eschew such tracing, but only at the expense of not transferring any revenue to country D from X's profits. Moreover, the failure of such tracing can result in creating similar distortions as source-based taxation.

main arguments in favor of DCFT proposals should point to the consideration of formulary apportionment by shareholder residence.

Figure 2



Conclusion

Evaluating the merits and implementability of the idea of taxing corporate profits by residence-based formulary apportionment is beyond the scope of this Article. There are substantive reasons for not rushing into such an exercise. As the examination of DCFT proposals in this Article has shown, present academic discussions of reforming international corporate taxation are characterized by certain fundamental disagreements, or at least diverging assumptions that theorists have not tried to reconcile. Some of these diverging assumption concern normative criteria. For example, should the design of international taxation try only to attain production efficiency, or should one adopt a more comprehensive normative framework, such as the optimal tax framework routinely applied in discussions of domestic tax policy? To what extent, and how, should the desire for progressivity (within individual national tax systems) be taken into account? Should trade-offs between efficiency and distributional objectives be allowed?[155] Beyond uncertainty about the appropriate normative criteria, divergent assumptions about the incentives of countries are also often made. Is it feasible for countries to transfer revenue among themselves, and under what conditions? Is it feasible for countries to provide mutual administrative assistance in tax collection, and again, under what conditions? When do countries cooperate and when do they act purely strategically?

[155] Moreover, since even efficiency-oriented neutrality criteria generally cannot be all satisfied in the real world, how should different types of inefficiencies be traded off against one another?

Perhaps surprisingly for what is so far only a set of theoretical proposals, the various versions of the DCFT have not been consistent with respect to the foregoing normative issues and behavioral assumptions. Production efficiency, progressivity, and possibly revenue distribution among countries all seem to matter somewhat, but there is no general normative framework into which all these considerations fit. Some versions of the DCFT (i.e. Versions 1 and 3) require mutual administrative assistance; some require revenue transfers (i.e. Version 3); and even for the version (i.e. Version 2) that does not require either, it is not yet clear whether some degree of cooperation (e.g. jointly-agreed adoption of the tax) among nations is necessary for the efficiency properties of the tax to be assured. Moreover, the relationship of the tax to shareholder-level taxation is left unclear; one can only conjecture what is implicitly assumed (most likely, corporate taxation is simply a *sui generis* source of revenue and bears no direct conceptual relation to the personal income tax). Finally, strong empirical assumptions are made about the incidence of the DCFT to ensure that it does not give rise to one set of inefficiencies while trying to eliminate another.

It should be stressed, however, that these are not the central objections made against DCFT proposals in this Article. Instead, the central objections are the (i) implementation dilemma described in Part II.1 for DCFT Version 1, (ii) the dilemma outlined in Part III.2-3 for DCFT Versions 2 and 3, and (iii) the more general critique of the idea of taxing corporate profit by reference to consumer location elaborated in Parts V-VI. These objections, I believe, are arguments against the DCFT in its own terms. The uncertainties about the appropriate normative framework and behavioral assumptions for evaluating international tax regimes, by contrast, arguably characterize all existing academic analysis of international taxation. They diminish the potential of any proposal for reforming the international tax system to guide real world action. Ironically, the outcomes of the OECD's BEPS project may end up helping theorists to calibrate their behavioral assumptions and the weight they assign to various normative goals, thereby enhancing the likelihood of theory to provide guidance to policy and action in the future.