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A Critical Review of Proposals for Destination-Based Cash-Flow Corporate Taxation as an International Tax Reform Option

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Abstract:

This article critically examines recent proposals for a destination-based, cash-flow corporate tax (DCT) as an option for international tax reform. I identify a range of exegetical issues the clarification of which would advance the evaluation of DCT proposals. These include whether DCT proponents have stated relevant and sufficient normative criteria for comparing the current international tax system with reform alternatives, as well as the relationship of the DCT to individual taxation. Moreover, I argue that (i) three versions of the DCT proposal should be distinguished; (ii) it may be misleading to label the most plausible versions of DCT as a tax on corporate profits; (iii) the proposals give rise to concerns about trade distortions; and (iv) an overly abstract approach to corporate losses have prevented DCT proponents from elaborating crucial institutional design issues. I then offer a fundamental critique of the DCT project. DCT proponents tend to be skeptical about residence-based taxation of individuals. Yet they aim to introduce information about individuals qua final consumers into the design of the corporate tax. This is ironic, because individual residency and the location of individuals as consumers are mostly the same. Moreover, market structures and the legal and regulatory apparatus built upon them are more likely to transmit information about individuals as residents than as final consumers. Thus if corporate income is to be taxed by reference to a relatively immobile factor, considering shareholder residence is an at least equally, and probably more, promising approach.

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

1. Introduction

In the past year, a small body of academic literature has emerged offering evaluations of the OECD's Base Erosion and Profit Shifting (BEPS) project from theoretical perspectives. According to one strand of the academic response to the BEPS initiative, 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.[1] What should receive more public attention are more fundamental reforms of the system. Among writers who express this view, many make reference to the destination-based, cash-flow (or "flow-of-funds") corporate tax

[1] See, e.g., 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, 2014); Michael P. Devereux & John Vella, *Are We Heading towards a Corporate Tax System Fit for the 21st Century?* (Oxford University Centre for Business Taxation, Working Paper No. 14/25, 2014); Clemens Fuest, Christophe Spengel, Katharina Finke, Jost Heckemeyer & Hannah Nusser, *Profit Shifting and 'Aggressive' Tax Planning by Multinational Firms: Issues and Options for Reform* 5 World Tax Journal 307, 307-24 (2013).

that was prominently presented as a reform option in the 2010 Mirrlees Review.[2] Interest in this more "radical" reform option has also been expressed in policymaking circles.[3]

In this paper, I provide a critical analysis of proposals for the destination-based, cash-flow corporate tax (abbreviated below as "DCT"). To separate the substantive from the rhetorical in this recent literature, I proceed in a manner that moves "backward" relative to the typical style of argumentation in the literature. The standard style is to first highlight the inadequacies of the current international corporate taxation system, and then to describe the various reform options (including DCT). Instead of pursuing a debate first about how best to identify the most fundamental flaws of the current system, I begin by examining what we know about DCT proposals. Specifically, what are the main theoretical motivations for advocating such a tax? What are the basic mechanisms of the tax? 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, technical, administrative, or political—compare with the constraints that might have led to all the flaws in the existing international tax system?

In tackling these questions, my first aim is to press for clarity and coherence in discussions of the DCT, so that policymakers, academics, and tax practitioners can make informed judgments about what DCT proponents have to say. Thus, in Sections 2 to 5, I engage with numerous expositional issues in the DCT literature. For example, I suggest that at least three versions of the DCT proposal should be distinguished, even though DCT proponents themselves sometimes conflate them. Moreover, I identify an important sense in which it would be misleading to label the favored versions of DCT as a tax on corporate profits. I also argue that the tendency of the recent DCT literature to neglect the issues of WTO consistency and trade distortions is unfortunate, because these issues have been identified by many authors as genuine. Finally, I highlight several ways in which economists who theorize about a tax on corporate rent have engaged in overly abstract discussions of the treatment of losses, resulting in an unjustified emphasis on the importance of tax refunds for corporate losses. Once the issue of corporate losses is considered in the proper light, the implementation of DCT may, ironically, be easier than generally supposed.

While many of these exegetical issues can be framed as criticisms of DCT proposals,[4] I do not regard them as giving rise to the most decisive objection to such proposals. Instead, the second aim of the paper is to advance the critique of the DCT that is more abstract but also more fundamental. Implicitly, DCT proponents reject the reform of the taxation of multinational corporations by reference to the residence of the corporations' 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

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[2] Alan Auerbach, Michael Devereux & Helen Simpson, *Taxing Corporate Income*, *in* Dimensions of Tax Design: The Mirrlees Review 837, 837-93 [hereinafter *ADS 2010*] (Stuart Adam et al. eds., 2010). For references to some literature on the destination-based cash flow tax that preceded *ADS 2010*, see Devereux & de la Feria, *supra* note 1, at 3 n.1. In addition, as *ADS 2010* acknowledges, there is an important body of U.S. economic literature that discusses implementing a cash-flow tax on consumption 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, 2003); Harry Grubert & T. Scott Newlon, *The International Implications of Consumption Tax Proposals*, 48 National Tax Journal, 619, 619-47 (1995). Some further U.S. literature is cited and discussed in Part 2.1 *infra*.

[3] See, e.g. International Monetary Fund, *Spillovers in International Corporate Taxation*, IMF Policy Paper (IMF, Washington, D.C.), May 9, 2014; Kristen Parillo, *A Destination-Based Corporate Tax: An Alternative to BEPS?* 78 Tax Notes International 315 (2015).

[4] A number of the arguments made in identifying these issues are, I believe, also original. In particular, I believe that the arguments against refunding corporate losses discussed in Section 5 have rarely been considered in the economic or legal literature.

for means for doing so. However, individual residency and the location of individuals as consumers are—and are assumed by DCT proponents to be—essentially the same. The question can thus be raised as to why corporate income can 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 reflected in the fact that the VAT, in its application to cross-border transactions, relies very little on information about final consumers, whereas the international income tax system in many countries successfully deploy at least some information about the ultimate shareholders of corporations (and the corporate holdings of individual investors). Thus from a system-design perspective, "destination" is much less promising than "residence" (both understood as capturing information about natural persons) for dealing with problems arising from capital mobility.

The paper proceeds as follows. Section 2 discusses the theoretical motivations for proposals for adopting the DCT, the scope of application of such proposals, their relations to individual taxation, and certain implicit assumptions they make about residence and destination. Section 3 distinguishes three versions of the DCT that have been proposed. Section 4 examines whether the DCT contemplates export subsidies that are impermissible under the WTO and distort trade. Section 5 then argues that DCT proposals share with origin-based cash flow tax proposals the flaw of giving inadequate consideration to reasons against refunding corporate losses.

Sections 6 and 7 will then mount the key critique of DCT proposals. Section 6 first shows that the VAT relies very little on information about the location of final consumers, and therefore DCT proponents have offered no plausible suggestion as to how information about destination can be transmitted. Section 7 suggests that a fundamental explanation of why this is the case is that market transactions in non-financial goods and services tend to be anonymous: the transacting parties do not need to retain information about their mutual identities. By contrast, the relations between corporations and their ultimate shareholders, even when mediated by financial markets, are such that parties tend to obtain and retain information about mutual identities. This is why real world income tax systems have been able to deploy information that shareholders have about their corporate holdings and that corporations have about their shareholders. A brief Conclusion follows.

2. Motivations for the DCT and Initial Set-Up

The destination-based, cash-flow tax is intended to replace the current income tax on corporations. I will not discuss the "cash flow" aspect of the DCT much here. The idea dates back to at least the U.K. Meade Report in the late 1970s: a cash flow tax results in a zero marginal tax rate on a corporation's investment, and therefore eliminates any tax distortion of corporation's marginal investment decisions.[5] While various reasons have been offered for imposing a zero rate of tax on the normal return to capital, the recent literature on corporate taxation has emphasized on one 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 be shifted onto local

[5] 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 #88, 2014).

immobile factors of production such as labor, while creating deadweight losses by reducing the level of investment. Eliminating the tax would remove the deadweight loss without affecting the government's ability to tax local immobile factors.[6]

The motivation for the "destination-based" aspect of the DCT relies on the following further reasoning. Multinational corporations actually face three, not one, margins in their investment decisions. They first face a discrete decision of 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. Once the discrete decision of where to locate production has been made, a second type of decision, how much to invest, will continue to be made. This type of decision is affected by the effective marginal tax rate. Third and finally, it is suggested that once profits on investments are realized, corporate managers have choices about where to book the profits, and this decision itself will be affected by the statutory (and not effective) tax rates.[7]

DCT proponents point out that even if a "source country"[8] eliminates its tax on the normal return to corporate capital (e.g. by adopting a cash flow tax or one of the close alternatives), tax factors will still drive decisions on the first and third margins. Thus, for example, if a multinational can command some kind of firm-specific, mobile rent, it may choose to locate production in a jurisdiction with a lower average tax rate in order to maximize after-tax rent, even if in another country, with a higher average tax rate, a higher pre-tax rent can be generated for the firm.[9] Therefore even a cash flow tax can still distort real economic activities and lead to welfare loss, as long as it is source-based. By contrast, the DCT can maintain neutrality with respect to all three margins of corporate decisions. This is because, as will be explained in detail in the next Section, the DCT aims to tax corporate profits by reference to where the sales to final consumers generating the profits are made.[10] Because where final consumers reside is a matter that is essentially a given for any multinational corporate group (MNC), the MNC, when subject to the DCT, will not make decisions about where to locate its production and its profits based on tax considerations, since such decisions will have no effect on the locations of the final consumers and therefore on its tax liability. Therefore, the MNC's decisions will be based only on other real economic considerations. This, DCT proponents claim, underlies the superiority of the DCT over source-based (either income or cash-flow) taxation.

A number of questions can be raised about these simple criteria used to motivate the DCT. First, it is not clear what real economic activities DCT proponents associate with the decisions along the third margin—regarding where to book corporate profits (assuming such decisions to be influenced by statutory tax rates). If the main activities associated with them are the implementation of tax planning and avoidance strategies, then these activities themselves may constitute deadweight loss.[11] However, 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, and not efficiency consequences. In that case, neutrality with respect to such decisions would not be a

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[6] See *ADS 2010*, *supra* note 2, at 842.
[7] *Id.* at 838.
[8] This is normally taken to denote the country in which a foreign multinational may consider locating production. I discuss the meaning of the concept of source—and the purported meaningless or incoherence of the concept often alleged by DCT proponents—in a companion paper.
[9] 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*, *supra* note 2, at 872.
[10] 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.
[11] Dhammika Dharmapala, *Base Erosion and Profit Shifting: A Simple Conceptual Framework* 9 (Coase-Sandor Institute for Law & Economics, Working Paper No. 703, 2014).

meaningful goal, since there is no reason to give any normative weight to the distributions resulting from decisions that are made when tax is neutral.

Second, if the locations of final consumption of the goods or services produced by particular firms are fixed and known, and if the firms' profits are taxed by reference to such locations, 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 DCT seems to undermine the rationale of the "cash flow" aspect.

Third, even if we accept that neutrality with respect to the above three margins should be the goal, it does not specify a uniquely superior tax. Importantly, a destination-based VAT also achieves such neutrality.[12] If both a DCT and a regular, destination-based VAT can achieve all three neutralities, why should we not just regard the VAT as the international tax reform option and repeal the corporate income tax?[13] Clearly, considerations other than neutrality with respect to the above three margins are needed to motivate DCT. For example, it may be that a DCT, which taxes rent accruing to capital but not the return to labor (while the VAT taxes both), results in more progressivity in tax systems. But other policy instruments can also bring greater progressivity; there is thus a question of why taxing corporate activities should be the focus.[14] Or it may be that in countries that have both the VAT and the corporate income tax, it would be politically feasible to convert the existing corporate income tax into a DCT, but it would not be politically feasible to raise VAT rates sufficiently to cover the revenue shortfall from the repeal of the corporate income tax. Why this would be the case is not clear. Again, it seems that DCT proponents need to say more.

Fourth, the achievement of the stated neutrality may be an insufficient justification for embracing the DCT for another reason. [15] In the context of domestic tax policy design, the policy 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, should we assume that either (i) these considerations cannot be usefully be applied, or (ii) the existing international tax system, the DCT, or other reform proposals do not differ along these potentially relevant normative dimensions, and that it is only the three margins of corporate decisions that matter? Without justifying such an assumption, the neutrality goal may be as unreliable as the much criticized traditional normative heuristics (e.g. double taxation and double non-taxation).

In summary, the normative and institutional considerations relevant for evaluating the DCT relative to the existing corporate income tax and other taxes may not have been fully stated by DCT

[12] Michael Keen & David Wildasin, *Pareto-Efficient International Taxation*, 94 American Economic Review 259, 268 (2004). See also Section 7 *infra*, for the discussion of a form of formulary apportionment that taxes corporate profit by reference to where ultimate shareholders reside.

[13] This reform option is particularly salient for the U.S., which does not 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 (April 2014).

[14] One general justification for taxing corporate rent is that it taxes foreigner shareholders on such rent. However, as discussed in Section 3, *infra*, the favored versions of the DCT—versions 2 and 3—relinquish this payoff of the corporate tax.

[15] David A. Weisbach, *The Use of Neutralities in International Tax Policy* 2, 17 (Coase-Sandor Institute for Law & Economics, Working Paper No. 697, 2014).

proponents.[16] For now, another preliminary question for DCT proposals should be considered: what is their scope of application? In particular, would the DCT apply only to corporate entities, or would it apply to unincorporated business entities as well? This is not only an interesting question in itself—in the United States, for example, most businesses today are taxed on a flow-through basis[17]—but answers to it may also reveal DCT proponents' assumptions about the basic normative rationale for corporate level taxes.

For example, one traditional rationale for the corporate income tax is that it substitutes for the taxation of shareholder income on an accrual basis, so that taxpayers do not derive a deferral advantage by earning income through a corporation.[18] By contrast, if the income of a business entity is taxed to its owners on a flow-through basis, then the purpose of accrual taxation is already achieved, and there is no need for imposing a separate tax on the income of the business entity. If the DCT, in replacing the corporate income tax, still plays the role of a substitute for shareholder accrual tax,[19] then it seems that it should not apply to non-corporate entities whose owners are already subject to flow-through taxation. Indeed, if the income of flow-through entities is already taxed at the hands of their individual owners by the individuals' countries of residence,[20] then the distortions of source-based taxation either do not arise or are minimized. Thus there is little normative rationale for taxing such entities on a destination basis. On the other hand, if the DCT does not play the role of a substitute for shareholder accrual tax, then an immediate question is why it is imposed in the first place.

Limiting the DCT only to corporate entities, however, may raise difficult implementation issues. For example, the destination country (and even the origin country) may need to decide how a foreign entity is taxed under foreign laws, whereas under the destination-based VAT no such determination is necessary. Perhaps for this reason, Devereux and de la Feria[21] assert that the destination-based 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. This response turns out to be unsatisfactory: as we will see in Section 3, the incidence of the DCT (as envisioned by Devereux and De le Feria) does not fall on the owners of the business subject to the DCT, thus giving a credit for the personal level income tax generates a windfall for such owners.

One final preliminary matter is the terminology and the stylized examples employed in DCT proposals to demonstrate the DCT's effects. Discussions of the DCT typically contemplate three countries.[22] There is a country of "origin", O, which is the country where a multinational locates its production, say through a company X incorporated in O. Then there is the country of residence, R, where

[16] DCT proposals raise questions regarding several other important criteria for evaluating international tax reform options that are beyond the scope of this paper. These include whether national budget constraints are binding, the degree of cooperation and non-cooperation among nations, and what it means to say that a certain type of tax design is incentive-compatible. I discuss these questions in a companion paper.
[17] Toder & Viard, *supra* note 13, at 5 (and these businesses accounted for 56% of taxable business profits in 2008).
[18] *Id.* at 2; Boadway & Tremblay, *supra* note 5, at 8, 12.
[19] Note that it is coherent to advocate for the non-taxation of the normal return of capital at the corporate level but retain the taxation of such normal return at the individual level: this would remove the potential distortion of corporate investment decisions while retaining the potential distortion of individuals' savings decisions. See Boadway & Tremblay, *supra* note 5, at 13. *ADS 2010*, *supra* note 2, at 839, also accepts shareholder accrual taxation in principle but regards it as infeasible. See Section 7, *infra*.
[20] If the income of flow-through entities is owned by corporations, it may be unclear how such income is to be taxed on a destination basis.
[21] *Supra* note 1, at 14.
[22] See *ADS 2010*, *supra* note 2, at 870.

X's individual shareholders, who are the ultimate owners of X's income, reside.[23] Finally there is the country of "destination", D, which is the country to which X makes sales of final consumer products (the products X sells are purchased and consumed in D). Under the current international tax system, only countries O and R may have taxing rights over X's income. The innovation of the DCT is to introduce country D.

The central challenge for DCT proposals, I will argue, is how the country D can be identified for any given firm X, especially since many firms are likely to sell goods and services only to other firms. But another notable feature of the above set up is that countries O, R, and D are assumed to be distinct. This is why a tax policy option beyond the traditional residence-source dichotomy seems conceivable. In a central formal examination of the properties of the DCT, however, Auerbach and Devereux[24] employ a two-country model. As discussed in 3.2 below, some of the key properties they derive depend on the fact that R and D coincide.

3. Three Versions of the DCT

Proponents of DCT have stressed its conceptual motivations and theoretical advantages; proposals for detailed implementation are still work in progress.[25] However, to fix ideas, it is important to consider some simple versions of the proposal.

3.1 Version 1: taxation of corporate profits in country of destination, not country of origin/source

The first version is not favored by DCT proponents but is nonetheless illustrative.[26] Using the set-up described at the end of Section 2, consider how to tax the corporate profits of the corporation X, measured under the cash-flow method. Under Version 1 of the DCT, sales to final consumers in D are identified by D. Such sales create a potential tax liability for all foreign vendors, including X. Since the tax is not a commodity tax but a tax on corporate profits, however, the extent of X's tax liability in D depends on X's costs that are allocable to the sales in D and that may however be incurred in O. Essentially, the profit that would have been taxed (in the first instance) in country O under a source-based (or "origin-based") international tax regime is made taxable (in the first instance) in D instead. This is the switch from source- to destination-based taxation. As explained above, the point of 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 a tax haven country, since that will not prevent its profits from being taxed in D.

Version 1 of the DCT is closely related to various proposals for taxing corporate profits by formulary apportionment (FA) according to a sales-only factor.[27] There are three main differences. The

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

[24] Alan Auerbach & Michael Devereux, *Consumption and Cash-Flow Taxes in an International Setting* 1 [hereinafter *AD 2013*] (National Bureau of Economic Research, Working Paper No. 19579, 2013).

[25] See, e.g., Devereux & de la Feria, *supra* note 1, at 3; Parillo, *supra* note 3.

[26] This version of the DCT is suggested in *ADS 2010*, *supra* note 2, at 883.

[27] See, e.g., *id.*; Rosanne Altshuler & Harry Grubert, *Formula Apportionment: Is it Better than the Current System and are there Better Alternatives?*, 63 National Tax Journal 1145, 1148 (2010); Harry Grubert & Rosanne Altshuler, *Fixing the System: An Analysis of Alternative Proposals for the Reform of International Tax*, 66 National Tax Journal 671, 705 (2013); Toder & Viard, *supra* note 13, at 23.

first is that 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, Version 1 of the DCT makes it explicit that any country into which sales to final consumers are made has taxing jurisdiction. Second, FA is mainly considered in the income tax context,[28] whereas under Version 1 of the DCT, what is taxable in D is X's cash flow profit, not its income. Third, the basic motivation of the DCT suggests that only countries into which sales to final consumers are made are relevant, whereas sales-only FA has tended to consider all sales, and not just sales to final consumers.[29]

The main type of objections to DCT Version 1 relates to its implementability. Within this type of (rather grave) objections, there are two sub-types. First, X may over-state its costs in O to reduce its taxable profit in D. In order to verify that O's stated costs attributable to sales in D are true costs, D's tax authority may need the cooperation of the tax authority in O. Moreover, since X may be making sales to many countries, a lot of international cooperation in tax administration would be needed. Second, there is the question of how the corporate profits of firms that sell only intermediate goods and services are to be treated. Without a plausible answer to this question, the proposal for reform is at most half complete.[30] But any attempt to answer the question faces an inescapable dilemma. On the one hand, if profits from intermediate sales are taxed in the country of the 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. On the other hand, if profits from intermediate sales are to be taxed on the basis of how such goods and services are used ultimately in producing 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?[31]

As already mentioned, Version 1 is not the preferred DCT proposal for DCT proponents. Thus objections to Version 1 on the basis of implementability do not dissuade them. This of course is an important reason to distinguish different versions of the DCT. However, DCT proponents sometimes equivocate between different versions of the DCT. For example, Devereux and la Feria, in a working paper that mainly elaborates on what I believe to be Versions 2 and 3 of the DCT (discussed below), offer an extended discussion of whether the country of destination can legitimately claim "substantive tax jurisdiction" over the profits of foreign corporations.[32] It is fairly easy to see how such a question can arise for Version 1 of the DCT proposal.[33] By contrast, it is very hard to see how this question can arise for other versions of the DCT, which have been accurately described as modifications of the VAT: that

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[28] FA may apply to all of corporate income, or to only residual profits from some (e.g. intangible) assets, as proposed by Michael J. Graetz & Rachael Doud, *Technological Innovation, International Competition, and the Challenges of International Income Taxation*, 113 Columbia Law Review 347, 417-19, 434 (2013).
[29] Nonetheless, FA proposals have become increasingly sensitive to the manipulability of sales to intermediate firms and therefore the distinction between sales to final consumers and intermediate sales is likely to be important to such proposals as well.
[30] As discussed in Section 6 below, most international trade occurs among firms and a substantial portion occur intra-firm, i.e. within multinational groups.
[31] That allocating profits to the jurisdictions where intermediate sales are made easily creates economic distortions and opportunities for manipulation is a key objection that has been raised against proposals to reform the corporate income tax using sales-factor-based FA. See Altshuler & Grubert, *supra* note 27, at 48; Grubert & Altshuler, *supra* note 27, at 704-07.
[32] Devereux & de la Feria, *supra* note 1, at 11-14.
[33] In the example above, corporation 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.

the destination country has "substantive tax jurisdiction" over imported goods and services seems undisputed. Thus Devereux and de la Feria must have had Version 1 of the DCT in mind in their "substantive tax jurisdiction" discussion.

I believe it is also very tempting to equivocate between Version 1 of the DCT and other versions. Under Version 1 of the DCT, the sense in which the tax imposed by D on X is a tax on X's profits is as unambiguous as a 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. By contrast, as we will soon see below, it is quite a semantic stretch to label the other (preferred) versions of the DCT taxes *on* corporate profits: they can be shown to leave the after-tax profit of a particular corporation unchanged. It is also unclear that the incidence of the DCT is on the owners of X *qua owners* (as opposed to, by coincidence, qua consumers of the products sold by X). Thus, the claim that the DCT is a tax *on corporate profits* keeps leading one back to Version 1 of the DCT.[34] Nonetheless, such conflations are misleading, including for DCT proponents themselves, as evidenced by Devereux and de la Feria's suggestion for crediting the DCT against the personal-level income tax of owners of unincorporated entities (assumed to be taxed on a flow-through basis). Therefore, the distinction between Version 1 of the DCT and other version of the DCT must be firmly followed, including by DCT proponents themselves.

Finally, there is another type of objection to Version 1 of the DCT that is not based on its lack of implementability. This is the objection that, in the simple set up used to describe Version 1, there are actually two aspects of the world that the multination corporation may take as givens: i.e. not only where final consumption takes place (stipulated to be D), but also where the company's ultimate individual investors reside (stipulated to be R). If R is just as independent of X's choice regarding location of production as D, then neutrality regarding where to locate production can also be achieved if X's profit is taxed in R. However, DCT proponents seem to assume that information about R would not be readily available to design the tax on X's profits, whereas information about D would be more readily available. Sections 6-7 will offer an extended argument as to why this is unjustified.

3.2 Version 2: A VAT with deductions for labor cost

The second version of DCT 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…. Any VAT [sic] a company had already paid on intermediate goods would be refunded. A destination-based

[34] Moreover, political interests may be more easily elicited for Version 1 of the DCT than for other versions, given the types of tax planning engaged by companies like Starbucks that have been exposed by the media: how could Starbucks not pay any tax in the UK when its sales to customers in its UK stores are generating so much profit? Version 1 of the DCT may be felt to address such (theoretically unreliable) intuitions, and therefore is more likely to keep DCT proposals on the policy radar screen.

> 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."[35]

What this description suggests is that a company's tax base is determined by the tax systems of different countries. In the country of sale (D), only income/revenue will be taken into account, which would clearly over-state corporate profit. However, in the country of production (O), all production costs will be subtracted from the tax base. In contrast to Version 1 of the DCT, whether such costs are over-stated can be verified by O's tax authority alone, without D's tax authority's involvement.

This and the next sections will consider a number of questions for this version of the DCT. To begin: Does the tax rate in O matter to X? This is an obvious question to ask, since what motivate DCT 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, in DCT Version 2, 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),[36] 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. Then X's net tax payment under DCT Version 2 would be $R^*t_D-P^*t_O$. Whether we express this as a 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, it is clear from the example 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, the tax rate in O does not matter to X, and therefore will not influence X's location decisions.[37] It is equally clear that whatever tax is levied in D, X's after-tax profit will always be the same and equal R-P. *D's tax rate t_D does not matter, either*. This seems to undermine an understanding of the DCT as being a tax *on* X's profits. Typically, the idea of a tax *on* corporate (pure) profit is that it alters the amount of pure profit that accrues 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.

This question can also be pressed against Auerbach and Devereux's formal derivation of the properties of the DCT. Auerbach and Devereux show through the derivation that the "destination-based tax is equivalent to a lump sum tax on the pure profits received by domestic residents."[38] This makes intuitive sense: a regular destination-based consumption-type VAT imposed by country D would tax all consumption arising out of economic rent and labor income received by the residents of D (wherever such rent and labor income are generated). A DCT that further excluded labor compensation from its tax base

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[35] *ADS 2010*, *supra* note 2, at 883-84.
[36] 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 1, 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 24; Bradford, *supra* note 2. However, in the simple example given here, I use tax-exclusive rates and prices, which can be converted easily into tax-inclusive ones.
[37] This appears to be the argument offered by Devereux & de la Feria, *supra* note 1, 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.").
[38] See *AD 2013*, *supra* note 24, at 20.

would then be equivalent to a tax on economic rent accruing to capital. However, in Auerbach and Devereux's model, multinationals are equally owned by resident and non-resident individuals. If a DCT imposed by a destination country is equivalent only to a lump sum tax imposed on the pure profit accruing to the capital owned by its *own* individual residents, then the tax is not a tax on the pure profit of the multinational making sales into D, which is owned by residents and non-residents. In other words, if country D adopts a DCT, it is a tax on the corporate profits of foreign companies only because 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 Version 2 of the DCT displays all the efficiency properties that its proponents ascribe to it, it seems inaccurately described as a way of taxing X's profits depending on where X's sales to final consumers are made. That *would* be an accurate description of DCT Version 1. By contrast, Version 2 describes a tax on X's profits *depending on where the consumption financed by X's profits takes place*. In terms of the simple set-up used in this Part, 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. It seems that proponents of Version 2 of the DCT have used a very misleading label for their view.

For the remainder of this paper, I do not dwell on this semantic objection, however grave it seems. Instead, I focus on understanding DCT Version 2 on its own terms, while firmly distinguishing it from Version 1. Many more questions can be raised. For instance, in the simple example above, we pretended that labor cost was zero. If the value of labor does contribute to value added but the cost of labor is excluded from the DCT base (that is, the value of labor is not subject to any tax), would it still be the case that a higher tax in O merely increases the cost of production in O, such that X's after-tax profit is not affected by the tax rate in O? The cash flow tax on business profits has often been described as having the effect of a VAT plus a wage subsidy (i.e. the value of non-labor inputs is taxed, but labor is not). It seems surprising that despite this subsidy, wage rates move in the same direction and in the same proportion as the prices of other inputs used in production.[39] Additional questions will be raised in Sections 4-5.

3.3 Version 3: Taxing exports at the origin, but at the destination country's rate

Devereux and de la Feria have described yet a third version of the DCT. Under this version, the country of production (O) would actually collect tax on its exports, but at the rates set by the destination countries.[40] This will ensure that the profits of a multinational are still taxed to the same extent as they are under Version 2 of the DCT. However, the revenue from exported sales ($R*t_D$ in the earlier example) would go in the first instance to the country of origin. This is not dissimilar to proposals for implementing the destination-based tax on an origin basis within the European Union.[41] Devereux and de la Feria note a few of the advantages of this Version 3 of the DCT, including that it would preserve the efficiency (but not the distributional) properties of Version 2, while preventing types of fraud observed under the destination-based VAT system.[42]

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[39] In the formal model in *AD 2013*, 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 24 at 20. There is no separate discussion of wage (and the justification for its rise along with other prices) in the model. In the theoretical VAT literature, it is not commonly assumed that a rise in the VAT rate would be accompanied by an equal rise in the wage rate.
[40] Devereux & de la Feria, *supra* note 1, at 10.
[41] *Id.* at 19-20.
[42] *Id.* at 10, 22.

But the main problem DCT Version 3 purports to deal with is the following. DCT proponents seem to believe that the strongest reservation one might have against DCT Version 2 is that for countries with net exports, the exclusion of wage payments from the tax base—and granting refundable tax credits associated with such payments—creates a negative tax base and drains revenue.[43] We will discuss the issue of tax refund for labor costs further in Sections 4-5. What can be said here is that this problem of a negative tax base may not matter to those 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.[44] For example, the problem was not emphasized when U.S. scholars and policy analysts debated the implementation of (relatives of) the DCT in the 1990s, 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: it would have loved to have this negative tax base (or "subsidy base") to export more. But there may indeed be countries with positive trade balances that are large relative to their respective domestic tax bases, for whom the DCT would create an intolerable revenue drain.

Even if we take this problem as genuine, however, it is not clear how DCT Version 3 deals with it. If, on the one hand, country O does not transfer the gross revenue it collects on exports to the destination countries, and if these destination countries nonetheless allow deductions for imported input goods, the destination countries that are net importers will face a similar issue of aggregate negative tax liabilities. If, on the other hand, country O does transfer the gross revenue it collects on exports to the destination countries, it will still face aggregate refunds as a net exporter. It is not clear how Version 3 offers an improvement over Version 2 in this regard. Moreover, Version 3 contemplates country D allowing deductions to importers even when it does not know whether the seller/exporter has included the revenue, which gives rise to serious administrative concerns.[45]

4. The Problem of Export Subsidies

An important question for the DCT (both Versions 2 and 3) that has both economic and institutional/legal significance is whether it may give rise to an export subsidy. Consider the following example. Suppose that company X in country O produces a unit of a good while incurring material costs of 10 (in tax-exclusive terms) and labor cost of 5. Suppose that the world producer (i.e. tax-exclusive) price of the good is 14. X's production of the good is thus unprofitable and results in one dollar of loss per unit. However, under the DCT, not only would X be refunded all previous tax borne by its non-labor inputs used in producing the good (thus making sure that the material cost is 10 and no more), but it should also get a tax credit for its labor cost. Suppose that O's domestic tax rate is 20%. Then X would get 1 dollar of "tax relief" from O's government for labor cost per unit produced. This allows X to break even. It would seem, then, that the DCT has the effect of an export subsidy.[46]

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[43] See *ADS 2010*, *supra* note 2, at 884; Devereux & de la Feria, *supra* note 1, at 10, 21.

[44] This raises the question of whether it is desirable for a subset of countries—those who can tolerate the negative tax base created by net exports—to adopt the DCT.

[45] As noted above, for DCT Version 3, the question of "substantive tax jurisdiction" 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 implies a conflation of DCT Version 3 with Version 1.

[46] It is possible, but not clear, that DCT proponents would suggest that the wage subsidy would raise the cost of labor from 5 to 6, and X thus would continue to generate losses. This first assumes that labor benefits from the full incidence of the subsidy, and second assumes that wage for labor used for purely domestic production will rise simply because of the tax refund for labor used in exported production.

However, DCT proponents have simply asserted that there is no export subsidy built into the DCT.[47] The institutional/legal version of this issue is whether the DCT in conflict with the GATT prohibition on export subsidies.[48] Some recent proponents of an origin-based tax on corporate rent have claimed that it is,[49] yet no DCT proponent has yet addressed this issue.

In the U.S. tax policy literature on implementing cash-flow consumption taxes, it is generally recognized that the destination version of such taxes would give rise to export subsidies.[50] 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 such payments would be taxed 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 tax refund for the wage it pays (and for the value of business input purchase that are created by the workers of previous domestic suppliers), then the refund exceeds the previous taxes paid and constitutes a subsidy. This was generally regarded as being in conflict with the GATT prohibition on export subsidies.[51] It would seem that a DCT with the simple removal of wage payments from the tax base, with no corresponding mechanism to tax the wage component, would generate even greater subsidies.

Several different responses to this problem were offered in the U.S. literature. One was that the cash-flow business tax should be designed on an origin-basis in order to be consistent with the GATT.[52] Some proponents of this response appealed to the theoretical equivalence of destination- and origin-based commodity taxes for support. Others argued that that the GATT is unreasonable and should be revised.[53] In one version of this argument, an origin-based cash flow tax was administratively unacceptable (and therefore for administrative reasons, destination- and origin-based commodity taxes are far from equivalent), but GATT is unreasonable in ruling out an important policy option. However, it is admitted that GATT is perhaps not entirely erroneous in suspecting that export subsidies may come into play.[54]

It is worth noting that DCT proponents appear to be ambivalent about whether destination- and origin-based cash flow taxes are likely to be equivalent. On one hand, equivalence would seem to undermine the urgency of adopting a destination-based tax. It seems unsurprising, then, that DCT proponents tend to point to arguments for non-equivalence. For example, Auerbach et al pointed to the

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[47] *ADS 2010*, *supra* note 2, 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* 23 (Centre for Economic Policy Research, Discussion Paper 3401, 2002).

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

[49] Boadway & Tremblay, *supra* note 5, at 47.

[50] See, e.g., Grubert & Newlon, *supra* note 2, 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).

[51] 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 50, at 1052-56.

[52] *Id.* See also Weisbach, *supra* note 50, at 218, *supra* note Bradford, *supra* note 2, at 12-13; Boadway & Tremblay, *supra* note 5, at 46-47.

[53] Some of these latter writers argued that GATT is unreasonable *because* destination- and origin-based commodity taxes could be equivalent. See Daniel N. Shaviro, *Replacing the Income Tax with a Progressive Consumption Tax*, Tax Notes, April 5, 2004, at 107-108.

[54] See, e.g. Weisbach, *supra* note 50, 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).")

requirements of a single tax rate on all goods and no cross-border shopping or labor mobility for equivalence to hold.[55] However, in setting out the DCT, DCT proponents did not make any assumption that implies that such requirements may be violated. Indeed, the requirement of consumer immobility (i.e. no cross border shopping) is presupposed by the claimed efficiency of the DCT.[56] In fact, most of the theoretical arguments for non-equivalence are not very relevant for the DCT proposed as an international tax reform option. In particular, the most fundamental way in which equivalence may fail for commodity taxes—that different commodities tend to be taxed at different rates[57]—does not seem to be an issue for a tax on corporate profits. On the other hand, if the equivalence between destination- and origin-based cash flow taxes fails to hold, should we not be more sensitive to the possibility that a destination-based tax may give rise to export subsidies (at least for some sectors and some businesses)? [58]

5. The Problem of Loss Refunds

As discussed in 3.3, some countries that are net exporters and that have relatively small domestic economies may face a large revenue drain because of the labor subsidy DCT implies. However, to assess the gravity of this problem, one may need to consider a basic problem in the implementation of a cash-flow corporate tax that arises even in the domestic context. That basic problem is simply aggravated in the destination version of the tax.

Advocates of the reform of the corporate income tax to tax only corporate rent have been concerned with the treatment 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) may discourage risk taking. Second, and of particular urgency for proposals to tax corporate rent, it is difficult to distinguish economic rent from profit from risk-taking for particular firms and investments. When a firm realizes an outsized return, it is generally hard to say how much it 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—can one address these two problems. Or so theorists seem to have reasoned.

However, there are at least two good theoretical arguments against tax credits/subsidies[59] for corporate losses. Before considering these two arguments, however, it is important to note that almost no real world tax systems offer tax credits/subsidies for losses.[60] This is true not only of the corporate income tax, but also of the VAT. One should not be misled by the fact that for a particular firm, it is possible for

[55] *ADS 2010*, *supra* note 2, at 884.
[56] Likewise, Auerbach and Devereux's more recent paper points out that imperfect competition may also defeat equivalence, but assumes perfect competition in its own model. *AD 2013*, *supra* note 24, at 5.
[57] See, e.g. Michael Keen & Walter Hellerstein, *Interjurisdictional Issues in the Design of a VAT*, 63 Tax L. Rev. 359, 363 (2010).
[58] If the DCT does have the effect of an export subsidy (and if for some reason the resulting subsidy is not constrained by the GATT), then some countries may have incentives for adopting the tax—in their self-interest, even if the result is adverse to global welfare. This is significant because one basic question for DCT proposals is whether countries acting in their own self-interest would adopt it. This question apparently holds special importance for DCT proponents because they claim that the problem with the current system is that it is not incentive-compatible relative to the incentives of individual nations. Devereux & Vella, *supra* note 1, at 2. The possibility of export subsidies points to an incentive-compatible but arguably undesirable arrangement.
[59] I avoid the term "tax refunds" because it suggests refunds of taxes already paid, which is precisely not at issue here.
[60] Boadway & Tremblay, *supra* note 5, at 30, briefly mention subsidies for losses under the Norwegian resource rent taxes in the petroleum and hydro power sectors.

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. 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.[61] To put it differently, the VAT taxes consumption even if the consumption is produced through a process generating a net loss. Some authors who advocate cash-flow business taxation have arguably missed this point, and as a result exaggerate the similarities between real-world VATs and the business taxes they favor in theory.[62] Insofar as a cash-flow tax requires government to give money to taxpayers in excess of tax previously paid—which is certainly going to be the case if labor costs are to be deducted from the tax base *and* losses are refunded, but any deduction for production costs that have not been previously taxed would trigger this consequence—this is a major departure from the VAT.

Are there good theoretical justifications for real world taxes to take the stance of not offering subsidies for losses? Normally, this stance is explained as an administrative necessity in light of the risk for fraud. But the issues of institutional design are deeper than that. Two arguments in favor of current practice are that, first, it may be misguided to consider corporate losses in themselves without asking who bears the detriment of corporate losses, and second, that the government has every reason to avoid subsidizing "negative rent".

5.1 Are corporate losses significant in themselves?

Even if tax policy aims at neutrality with respect to risk-taking activities, it is unclear we should treat corporate losses as significant in themselves. To start, just as the profit of a corporation can be reflected not only in the corporation's own financial statements but also in the increased value of the corporation's shares, a corporate loss can be reflected in diminutions of share value. As a result, for tax purposes, gains realized by a corporation create the possibility for taxpayers of being subject to multiple taxation on the same gain, while losses realized by a corporation create for the government the possibility of granting multiple deductions for the same loss. However, when it comes to shareholder taxation, the realization requirement under the income tax creates an asymmetry between gain and loss: a shareholder can defer the recognition of gain on the shares of a corporation, while realizing immediately the loss suffered by the shares by disposing them. Assuming that such loss realized by shareholders can be used to offset other income, the downside of corporate risk taking would be reflected in the tax treatment of shareholders. In that case, the non-refund of corporate losses need not discourage risk taking.

It is a motto often attributed to economists that corporations do not bear taxes, and that to understand the effect of corporate taxation one has to trace its effect to real people. The reminder that corporate losses matter ultimately only at the shareholder level is simply an application of that motto. In fact, that motto should take us even further. Corporations exist, after all, to limit shareholders' liability. Therefore the downside of corporate risk-taking has already been limited for the shareholder. If a corporation winds up with a loss, that loss often is not fully borne by shareholders, but instead is partly (or even largely) borne by creditors. The loss borne by third parties may well already be reflected in the

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[61] 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.

[62] 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." 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 2, at 32-34.

latter's computation of taxable income/profit (including even under a cash-flow tax), and if so, it would be wrong for the government to recognize negative income tax liabilities for corporate losses by offering subsidies to the loss corporation. In summary, while it may be important for tax systems to take losses into account to remain neutral with respect to risk-taking, the case for taking corporate losses into account is perhaps the weakest, because the corporations do not bear the "incidence" of corporate losses.

5.2 The problem of negative rent

A different theoretical justification for not offering subsidies for corporate losses is the possibility of negative rent. Just as the idea of positive economic rent stands for the excess of the expected value of an investment over the normal (risk-adjusted) return for investments, the idea of a negative rent is that the expected value of an investment may fall below the normal (risk-adjusted) return. There are various reasons why people might make investments—including through incorporated businesses—that have expected values lower than the opportunity cost of their investment capital (i.e. investments with negative rent). For example, the expected upside of the investment may have non-pecuniary value, or may particularly enhance one's wellbeing by satisfying unique personal preferences, whereas the downside of the investment only has negative financial or pecuniary value.[63] Therefore, people who make investments with negative expected profit do not necessarily act irrationally. And of course, many investments decisions actually do reflect irrational exuberance, myopia, or other forms of limited rationality.

If people do make investments (whether or not in corporate form) generating negative rent, however, then a problem arises for the government. A government generally has incentives to tax pure positive profit—to the maximal possible extent—because it raises revenue without causing distortions. But governments generally should have no incentive to subsidize investments with negative rent. If the government's attitude towards positive and negative rent is asymmetric, that may lead it to tax profit and loss from risk-taking in an asymmetric fashion as well, precisely because it is difficult to distinguish between pure economic profit (positive or negative) from lucky or unlucky outcomes from bets. In other words, the normatively desirable symmetric treatment of income and losses from risk raking may be in conflict with the normatively desirable asymmetric treatment of positive and negative rent, and it is not clear that the former is more important than the latter.

5.3 Implications for cash-flow tax design

For these two theoretical reasons, as well as for the more commonly cited (and widely accepted) reason of administrability, the implementation of any cash-flow corporate tax, both in the domestic and cross-border contexts, and whether on a destination or origin basis, may need to adopt arrangements that look more like current business income or consumption taxes rather than the abstract versions that theorists have assumed. For example, governments may insist that any refunds can only be for taxes previously paid, and not net subsidies to taxpayers. Corporate losses may be carried forward,[64] but the refundable credit for losses would be denied. On surface, such arrangements may seem to discriminate against risk taking, but the real extent to which that is the case will depend on what else is happening in the system (e.g. whether shareholders and creditors are recognizing losses). In any case, they may justifiably prevent the subsidization of negative rent.

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[63] Or, the downside of a risky investment may be hedge-able, whereas the upside may be unique.

[64] See Boadway & Tremblay, *supra* note 5, at 11.

Even for an origin-based cash flow tax, these limitations would be very notable, since, compared to both the income tax and the VAT, the cash flow tax may allow greater deductions,[65] and therefore generate losses more frequently or to greater extents. For the DCT, the limitation of refunds to previously taxed purchases would pose even more severe problems. In the example described in Part 1.3 in connection with DCT Version 2, if tax is refunded for exports only to the extent of previously taxed inputs—which does not include labor—then the corporation's profit/rent will clearly be exaggerated. However, how to deal with this problem while preventing the excessive recognition of losses is not at all clear. This is an aspect of the DCT that requires much further elaboration. Nonetheless, it is likely that, for a net exporter country, the actual revenue drain from implementing the DCT would be smaller than the theorists contemplate.

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

The last 4 sections highlighted numerous exegetical issues for DCT proposals and urged DCT proponents to address them. In this section and the next, I elaborate a fundamental critique of such proposals. The main question to consider is: how does bringing the country of destination into consideration in assigning income tax jurisdictions broaden the range of international tax policy options?

Theoretically, there is a close conceptual connection between residence-based individual income taxation and destination-based consumption taxation. [66] 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. 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.[67] Conversely, source-based capital income taxation can be 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.[68]

Given the close affinity between resident-based individual income taxation and destination-based consumption taxation, how can destination-based taxation fix problems in international taxation that cannot be fixed by resident-based taxation? In particular, the roles of individuals as residents of a given country and as consumers within that country largely overlap. Indeed, the country of "destination" is often defined the country where the consumers reside. It is also a premise of DCT proposals that consumption activities are largely immobile. If a tax system cannot easily deploy information regarding

[65] Compared to the income tax, the cash flow tax may allow greater deductions because of immediate expensing of capital outlays (note, however, that an R-based cash flow tax would not allow interest expense deductions). Compared to the VAT, deducting wages from the tax base results in greater deductions under the cash flow tax.
[66] See Keen & Wildasin, *supra* note 12, at 268.
[67] 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.
[68] 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.

individuals qua residents, how is information regarding individuals qua consumers more easily deployable?

For many recent proponents of corporate tax reform (e.g. all rent-based corporate taxes, including those providing for an ACE or a Capital Cost Allowance), individual taxation is often treated as a separate subject matter. The interactions between corporate-level taxation and individual-level taxation tend not to be fully considered, as illustrated in Section 5.1 by the neglect of the possibility of recognizing corporate losses at the shareholder level. Instead, the prevailing approach seems not to be about optimizing corporate taxation *given* individual taxation on a resident basis, but about optimizing corporate taxation assuming that individual taxation on a resident basis will remain very imperfect. Along these lines, many economists writing about international taxation have claimed or assumed that individual taxation on a resident basis is difficult to implement.[69] But given the conceptual connection between resident-based individual income taxation and destination-based consumption taxation, a question is especially acute for DCT proponents: why should the latter be easier to implement, when the former is assumed to be infeasible?

One obvious answer to this question 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.[70] The difficulties of resident individual income taxation are normally not presented as only or even mainly problems in the accurate measurement of the timing of income, but as problems of jurisdiction and enforcement. In particular, because 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 is crucial to remember that the current international consumption and income tax regimes apply to the same patterns of world trade and investment. Is the international consumption tax regime somehow more able to gather information about consumers from these patterns than the income tax regime is able to gather information about residents?

The implicit answer given by some DCT proponents is yes. They appear to take the position that while the prevalent practice under the VAT for taxing cross-border transactions—which is "destination-based"—is 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.[71] In the lingo favored by these authors, destination, a concept deployed in indirect taxation, can serve as a "proxy" for the place of consumption.[72] Yet this purported benefit of introducing the concept of destination is likely to be illusory. The error that is likely to have been committed can be described in two ways.

First, it is important to recognize the distinction between the economic characterization of the destination principle and the institutional/legal characterization of a principle by the same name. These

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[69] See, e.g. *ADS 2010*, *supra* note 2, 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).

[70] This idea is implemented in current US PFIC rules and has been proposed by Alan Auerbach and others in connection with the "retrospective taxation" of capital gain.

[71] Devereux & de la Feria, *supra* note 1. 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).

[72] The idea that destination is a proxy for consumption is endorsed in Keen & Hellerstein, *supra* note 57, at 366-368.

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."[73] Note that 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 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.[74] It is not hard to see that the zero-rating of exports is neither necessary nor sufficient for realizing the destination principle under the economic characterization.[75]

While it might seem unnecessary to belabor the distinction between the destination principle as an objective of economic policy and the destination principle as a label for the VAT mechanism of taxing imports and zero-rating exports, the identification of "destination-based" taxation with the institutional mechanism of zero-rating exports is transparently assumed in both Versions 2 and 3 of DCT proposals. Further, these proposals mistakenly assume that zero-rating carries information about place of consumption.[76]

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 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.

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[73] Liam Ebrill et al., *The Modern VAT* 176 (2001).

[74] See, e.g., Alan Schenk, Victor Thuronyi & Wei Cui, *Value Added Tax: A Comparative Approach* 15 (2015).

[75] 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.

[76] To be fair, it is not just DCT 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." Keen & Hellerstein, *supra* note 57, 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."). Nonetheless, they insist that "destination" as used in real world VAT rules serves as a proxy for consumption.

It is within this general context that zero-rating under the VAT operates. It is well-known that the mechanism of zero-rating is often adopted under VATs within purely domestic contexts.[77] The point of such mechanisms is generally to ensure there is no tax-induced distortion in the business decisions of the purchaser.[78] 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, relative few consumer goods traditionally have been directly imported by retail customers; most importation of goods has involved B2B transactions.[79] Second, most consumption services are traditionally supplied domestically. These two facts have allowed a set of rules mainly governing cross-border B2B services 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.[80]

The preceding two arguments make references to features of VAT law to explain why it is implausible to view destination (as deployed in VAT law) as a conceptual proxy for consumption. There is an even more intuitive argument. "Destination", as used under VAT law, simply denotes the location of the customer in cross-border transactions. Most recent discussions of international income tax policy, however, stress that new policy challenges prompting initiatives such as BEPS have arisen because of the ever increasing importance of multinationals in world trade. If one-third of international trade takes place between related entities in multinational groups,[81] and if in countries like the U.S. over 90% of imports flows through only a sub-group of firms,[82] "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?

7. Information requirements under Destination- and Residence-based taxation

The previous section showed that because cross-border transactions are mostly B2B, the basic cross-border rules of the VAT (i.e. zero-rating exports and taxing imports) work even though sellers generally possess no information as to the place of ultimate consumption of the goods and services they sell. The point of the argument is not whether VAT mechanisms deploy sufficient information so as to

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[77] See Schenk, Thuronyi & Cui, *supra* note 74, at 260-269.

[78] 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.

[79] 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.

[80] See, e.g. Keen & Hellerstein, *supra* note 57, at 367 ("the destination principle is a rule of tax administration that seeks to approximate the location of consumption in a sensible and administrable fashion").

[81] 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).

[82] *Id.* at 534.

always identify places of consumption.[83] It is instead whether basic VAT mechanisms deploy *any* identifying information regarding places of consumption. If they do not, DCT 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. Short of such an example, it is not clear how the ambition of taxing corporate activities by reference to ultimate consumption can even begin to be realized.

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).[84] 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 passive foreign investment company (PFIC) rules, and their counterparts in Canada, Australia, Germany, France, and other countries,[85] 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.[86]

This difference in the infrastructures for income taxes and for the VAT may not be accidental. By its nature as a consumption tax, the VAT applies only to the supply of goods and services. The supply and purchase of goods and services can occur, and generally do occur, in markets where parties do not need to know the identities of their counterparties (or to retain information about such identities).[87] Instead, the identities of transacting parties are relevant only when the sales of goods or services implicate specific types of legal relationships, such as agency and debtor-creditor relationships. By contrast, 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.[88] Because share ownership is a type of financial claim, the basic market conditions for the transmission of mutual identities (either from corporations to shareholders or from shareholders to corporations) are always present, and tax and financial regulations only have to harness such information. By contrast, for the sales of goods and services, the basic market conditions for the transmission of mutual identities are not generally present, which means that tax (and non-tax) law applicable to such sales had better not rely on such information.

If this is correct, then the most fundamental conceptual question for DCT proposals is whether corporate profits should be taxed by reference to information embodied in financial claims or information available in the sales of goods and services. Residence is an example of the former. Destination is an example of the latter.[89] Recall that individuals' residence and individuals' place of consumption largely

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[83] 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 1, at 9.
[84] For the work of OECD Working Party No. 9, see Keen & Hellerstein, *supra* note 57, at 373-382; for references to other recent European developments, see Devereux & de la Feria, *supra* note 1, at 19-20.
[85] See Hugh Ault & Brian Arnold, *Comparative Income Taxation: A Structural Analysis* Part Four, Subpart A, Section 4 (2010).
[86]
[87] For present purposes, the only relevant aspects of identities of transacting parties are whether they are individuals and where they reside.
[88] Where they do, they are likely to be connected through a chain of non-anonymous agency relationships.
[89] Notoriously, the "source" of income cannot be classified by either category.

overlap. The question is how information about such locations can be used in taxing corporate income (to deal with the problem of capital mobility). The much more plausible choice seems to be residence, not destination.

Taxing corporate profit by reference to residence can in principle take two forms. The first is to tax individual shareholders on an accrual basis, which many countries already try to do, and which option may have been too summarily dismissed by proponents of corporate tax reform.[90] 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 transfer of financial information from foreign corporations to U.S. shareholders. The third approach addresses non-listed PFICs where flow-through information is not provided to the shareholder. Under the third approach, the U.S. shareholder is taxed on income from PFIC on a retrospective basis by paying interest on tax liabilities that previously accrued.[91]

The second option rarely discussed is a form of formulary apportionment that taxes corporate income according to where the corporation's shareholders reside.[92] While such a type of corporate reform may raise various concerns, it does seem to satisfy the neutrality criterion that DCT proponents use to motivate the DCT. A less promising proposal is to determine corporate residency by reference to shareholder residence, and to tax corporations on a residence basis. This is because, if a corporation can only have one country of residence, any apportionment of taxing rights would be precluded.

8. Conclusion

[To come]

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[90] See *ADS 2010*, *supra* note 2, at 880. Toder & Viard, *supra* note 13, at 42, is a recent example of proposals to tax shareholders on an accrual basis (either through mark to market or through flow-through taxation), but they essentially argue for the abolition of the corporate income tax, not its reform.

[91] Using retrospective taxation in response to difficulties in taxing income on an accrual basis is a general approach that can be applied in other contexts, for example to the taxation of capital gain. See Alan J. Auerbach, *Retrospective Capital Gains Taxation*, 81 American Economic Review 167, 167-178 (1991).

[92] See Toder & Viard, *supra* note 13, 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.")

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