Revisiting Global Formulary Apportionment

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REVISITING GLOBAL FORMULARY APPORTIONMENT

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INTRODUCTION

A formidable tangle of international tax rules currently divides global jurisdiction to tax. Would formulary apportionment fix it? One proposal advocates the global allocation of corporate income based mainly on sales. This Article questions the claim that the unilateral U.S. adoption of such an approach would produce a simpler system with minimal tax incentives for the location of production assets or the organization of multinational corporations (MNCs).

The three factors traditionally used in apportionment of corporate income, for example by the U.S. states, are sales, payroll and property. Due to the difficulty of accurately valuing property and the perception that payroll and property factors would discourage the in-state location of jobs and property, many US states heavily weight the sales factor. A destination
sales-based formulary apportionment (DSFA) method would take a similar approach. One global DSFA path rests on the premise that the unilateral adoption of such a system would attract productive capacity to the U.S. and spur other nations to adopt similar systems.

This paper contains three parts. Part I describes the formulary apportionment concept, in particular the DSFA method. Part II considers whether unilateral U.S. adoption of a DSFA tax would likely lead to global DSFA. Part II argues that although the anticipated incentive to shift productive assets to the U.S. supports this conclusion, at least two contrary factors exist. The first factor consists of the origin-based elements of a DSFA tax, including those arising from business-to-business sales, which would decrease the productive activity attraction capacity of a DSFA system. The second is the fact that other nations might not react to the attraction of productive capacity to the U.S. by adopting DSFA themselves, because other nations have the alternative options of WTO sanctions, tax treaty-based objections and corporate income tax repeal.

Part III contributes to the question of whether global DSFA would indeed be better than the current U.S. corporate tax system. It first notes that an evaluation of the current system should consider the possibility that incremental transfer pricing and other reform efforts — which could include formulary elements — may succeed in limiting the ability of MNCs to shift income offshore under the current system. It describes the continuing economic location incentives under global DSFA, which stem from business-to-business sales and other origin-based incentives under DSFA allocation and from distortions to cross-border merger decisions. Part III then discusses the uncertainty of administrative and compliance cost savings under DSFA and considers the limitations of an international norm of corporate taxation for the future evolution of the U.S. tax system. Finally, it identifies the problem of inflexibility as a general problem with broad, global international tax policy solutions and anticipates further exploration of the idea that incremental reform is generally a better approach for reforming the international division of jurisdiction to tax business income.

I. THE POTENTIAL PANACEA

A. Why Consider Formulary Apportionment?

Formulary apportionment divides income among taxing jurisdictions according to a formula.¹ Many U.S. states and the Canadian provinces

¹ See, e.g., Reuven S. Avi-Yonah, Kimberly A. Clausing & Michael C. Durst, Allocating Business Profits for Tax Purposes: A Proposal to Adopt a Formulary Profit Split,
currently use formulary apportionment for corporate income, for example.\(^2\) The European Union’s uncompleted project to develop an elective Common Consolidated Corporate Tax Base (CCCTB) also included the proposal to permit the allocation of the corporate income tax base according to a formula.\(^3\) Due to the complexities of international tax law, including but not limited to the transfer pricing rules, policymakers and commentators have for years considered the possibility of adopting formulary apportionment on a global basis for business entities.\(^4\) Yet the likely impact of formulary apportionment remains unclear.\(^5\)


\(^{12}\) See Michael J. Graetz & Michael M. O’Hear, The “Original Intent” of U.S. International Taxation, 46 Duke L.J. 1021, 1089 & n.275 (1997) (noting that the “direct” apportionment method mediated by the “effectively connected” income rules developed despite the goal of developing “formulas of general apportionment,” which was mentioned in a 1921 federal statute (citing Revenue Act of 1921, ch. 136, § 217(e), 42 Stat. 227, 244–45 (1921))); Stanley S. Surrey & David R. Tillinghast, General Report, Allocation of Income and Expense Between Related Entities Under Common Control, 56 Cahiers de Droit Fiscal Internationale I/1, I/3 (1971) (noting that formulary apportionment would guard against not only tax-motivated gaming, but also nontax reasons such as exchange controls for misallocating profit between countries).

Under the current U.S. system of international taxation, the U.S. taxes corporate business entities based on their residence, which is in turn determined by their place of incorporation. A U.S. corporation must pay tax on its worldwide income, subject to a credit for income taxes paid to non-U.S. governments. However, that worldwide income does not include the active and non-mobile, or non-subpart F, income of the corporation’s non-U.S. subsidiaries. U.S. income tax is imposed on the non-subpart F income of such subsidiaries only when it is repatriated to the U.S.

These rules encourage MNCs to use transfer pricing to allocate as much of their income as possible to subsidiaries incorporated in low-tax, non-U.S. jurisdictions, and to characterize it as non-subpart F income. Corporations expend considerable tax planning energy on this project. Commentators have documented both the fact that tax considerations help drive corporations’ offshore location decisions and the fact that dividing corporate income among jurisdictions complicates the exercise of evaluating the merits of formulary apportionment proposals. See Wolfgang Schönb erg, International Tax Coordination for a Second-Best World, 1 World Tax J. 67, 71-84 (2009) (explaining the limits of the ability-to-pay and benefits principle as well as economic neutrality concepts as foundational principles for division of taxing jurisdiction).

6 See I.R.C. § 7701(a)(4), (a)(30)(C) (defining a United States person as including a corporation organized under the laws of any state).

7 See I.R.C. § 11 (imposing an income tax on corporations); I.R.C. § 881 (limiting income tax base to U.S. source income and income effectively connected with a U.S. trade or business for non-U.S. corporations); I.R.C. § 901 (providing a direct foreign tax credit for income taxes paid to non-U.S. governments).


9 U.S. corporations pay tax on dividend income from non-U.S. subsidiaries subject to the indirect foreign tax credit, which is calculated from the amount of the non-U.S. subsidiary’s non-U.S. income tax and the ratio of the dividend to the earnings of the non-U.S. subsidiary. See I.R.C. § 902 (providing for indirect foreign tax credit).


11 See James R. Hines, Jr., Lessons from Behavioral Responses to International Taxation, 52 Nat’l Tax J. 305, 312–13 (1999) (summarizing econometric evidence showing a correlation between lower tax rates and higher foreign direct investment); see, e.g., Michael P. Devereux & Rachel Griffith, Taxes and the Location of Production: Evidence from a Panel of U.S. Multinationals, 68 J. Pub. Econ. 335, 362–63 (1998) (concluding, based on a conceptual model and large empirical study that when a U.S. firm chooses among European country locations, an increased effective tax rate decreases the likelihood of locating in a particular country, and that specifically, a 1% effective tax rate increase decreases the likelihood of location by about 1.3% in the United Kingdom and 0.5% in France and Germany); Harry Grubert & John Mutti, Do Taxes Influence Where U.S. Corporations Invest?, 53 Nat’l Tax J. 825, 825, 835–36 (2000) (concluding that effective
jurisdictions compete with each other for MNC business by lowering tax corporate rates and offering tax holidays or other special incentives. A steady erosion of the corporate tax base has resulted — although the base has certainly not disappeared altogether. One commentator reports, for example, that between 1999 and 2004 the average non-U.S. effective tax rate for most U.S. multinationals declined by more than five percent, from 30.3% to 25.2%, due to roughly equal factors of profit shifting through tax planning, changed allocation of economic activity, and declining non-U.S. tax rates. Another recent analysis links higher tax rates to declining reported corporate profitability and estimates that absent tax rate differentials $157 billion more in profit would be attributed to U.S. firms rather than non-U.S. affiliates.

Current transfer pricing rules lack a fundamental connection with the economic substance of related party transactions and have proven very difficult to enforce. The arm’s length principle of transfer pricing holds that prices between related parties should be set so as to equal prices that unrelated parties would agree to. The OECD countries, including the United States, have strongly endorsed the arm’s length concept. But, as tax rates have a “highly significant” effect on non-U.S. investment location decisions for large U.S. manufacturing MNCs and that an effective tax rate increase of 1% may decrease invested capital by 3% in open economies.


14 Kimberly A. Clausing, Multinational Firm Tax Avoidance and Tax Policy, 57 NAT’L TAX J. 703, 710–11 (2009) (finding that a 1% higher tax rate leads to a 0.5% reduction in reported profitability for a corporate affiliate in the taxing jurisdiction).


16 See, e.g., Treas. Reg. 1.482-1(b)(1) (2009) (“In determining the true taxable income of a controlled taxpayer, the standard to be applied in every case is that of a taxpayer dealing at arm’s length with an uncontrolled taxpayer.”).

17 See, e.g., OECD, TRANSFER PRICING GUIDELINES FOR MULTINATIONAL ENTERPRISES AND TAX ADMINISTRATIONS I-6 (2001) (“[T]he view of OECD Member countries continues to be that the arm’s length principle should govern the evaluation of transfer prices among
others have argued, it makes little sense, at least as traditionally applied.\textsuperscript{18} Comparables are often scarce because related parties enter into transactions that unrelated parties would not consider, such as the wholesale license of intellectual property portfolios. And the theory of the integrated firm explains that firms integrate management and production functions in order to realize cost savings, such as from economies of scale, that are not available in an unrelated party context.\textsuperscript{19} At least some of the profit subject to allocation in the related party situation simply does not exist in any unrelated “comparable.”

\textbf{B. The Potential of Formulary Apportionment}

Proponents argue that formulary apportionment would reduce MNCs’ ability to use transfer pricing to locate their taxable income in low-tax countries.\textsuperscript{20} For example, by lowering the price at which a good is sold by a U.S. parent to a low-tax non-U.S. subsidiary, and increasing the price at which a good is sold by the low-tax non-U.S. subsidiary to another related corporation before delivery to a customer, a MNC may increase the profit allocated to the low-tax subsidiary. Common transfer pricing strategies include the location of valuable intellectual property in low-tax offshore corporations, the use of contract manufacturing to characterize low-tax subsidiaries as earning relatively large amounts of active, non-subpart F income, and the establishment of commissionaire structures that assign low-margin responsibility for selling to entities in high-tax countries to minimize the income allocated to such jurisdictions.\textsuperscript{21}

\textsuperscript{18} See, e.g., \textsc{Reuven S. Avi-Yonah, International Tax as International Law} 111 (2007) (“It became clear by the late 1980s that the traditional methods for addressing transfer pricing problems were not sufficient because in the vast majority of cases they were not being applied or were not being applied in a satisfactory way.”).

\textsuperscript{19} See, e.g., \textsc{Yariv Brauner, Value in the Eye of the Beholder: The Valuation of Intangibles for Transfer Pricing Purposes}, 28 \textsc{Va. Tax Rev.} 79, 87–94 (2008) (noting the extreme difficulty of valuing intangibles and the incompatibility of arm’s length pricing with the key cost-internalization advantage of a multinational, vertically integrated corporation); \textsc{Richard J. Vann, Reflections on Business Profits and the Arm’s Length Principle, in The Taxation of Business Profits Under Tax Treaties} (Brian J. Arnold, Jacques Sasseville & Eric M. Zolt, eds.) at 133, 140–41 (2006) (“Firms generally, and MNEs in particular, are created because they generate returns internally above what can be obtained in market transactions.”).

\textsuperscript{20} See Avi-Yonah, Clausing & Durst, supra note 1, at 507 (noting that formulary apportionment is intended to minimize income-shifting).

\textsuperscript{21} See, e.g., Roin, supra note 1, at 230–32 (describing such contract manufacturing and commissionaire strategies); Shay, supra note 10, at 31–33 (giving an example of “plain-vanilla” subpart F planning).
Formulary apportionment would eliminate arm’s length transfer pricing and substitute a formula to split income among related business entities. Most U.S. states use a formula based on the three factors of sales, payroll and property, although many states have moved to a formula that more heavily weights sales or uses sales exclusively. The Canadian provinces use a nationally uniform formula based on sales and payroll. If a formula were used to divide income among all jurisdictions, MNCs could no longer play games with transfer pricing rules.

Elements of formulary apportionment already exist within the U.S. federal transfer pricing system. For example, the residual profit split method includes a property factor, as it divides profits in excess of amounts allocable to returns for routine functions “by reference to the relative contributions of intangible property to the business activity [not otherwise] taken into account.” In addition, guidance permits global trading businesses to allocate their income based on a formula featuring value, risk, and activity factors.

Yet a formulary system could reform — and replace — more than the transfer pricing rules. If applied to groups of corporations, with an ownership threshold test substituting for any unitary business requirement

22 See Mintz & Weiner, supra note 3, at 100 tbl.4 (providing table of state apportionment formulae in 2008).
26 See I.R.S. Notice 94-40, 1994-1 C.B. 351 (explaining that the factors derive in turn from data points including the compensation of traders and other personnel, the risk exposure of various locations, and/or the value of transactions executed in various locations).
27 See Charles E. McLure Jr., Replacing Separate Entity Accounting and the Arm’s Length Principle With Formulary Apportionment, 56 INT’L BUR. FISCAL DOCUMENTATION 586, 589 (2002) (“FA could replace both the existing source-based and residence-based systems, or the existing residence-based system could remain largely unchanged. Under the latter approach, FA would be used to determine the geographic “source” of income for purposes of both source-based taxation and relief of double taxation . . . ”).
28 The proposal by Avi-Yonah, Clausing, and Durst would allocate income among a group of related parties under common ownership or control if they were engaged in an activity, or “group of functions related to the conduct of a particular trade or business . . . determined at the largest level of aggregation of functions performed that will permit reliable identification of such related parties’ respective contributions to the functions comprising an
and to all income — active or passive — earned by a business corporation, it would render subpart F largely obsolete. If formulary apportionment were adopted globally, there could also be no need for a foreign tax credit for income of business corporations, as no residual source or residence jurisdiction claim would remain. Existing source country withholding taxes would lose their relevance as well for income of business corporations.

Under formulary apportionment, the existence of an apportionment factor such as sales into the jurisdiction — rather than residence or source — could constitute taxing nexus. Accordingly, formulary apportionment would have no need for the current rules determining corporate residence or corporate income source. It is a wholly different way of allocating activity.”

29 Compare Pomp, supra note 28, at 805 (suggesting that formulary apportionment apply to “all of a corporation’s activities and all of its income”), with Michael C. Durst, A Statutory Proposal for U.S. Transfer Pricing Reform, 46 TAX NOTES INT’L 1041, 1045 (June 4, 2007) (outlining a formulary system that would distinguish between active and passive income and explaining that the passive income rules of subpart F might retain importance but that the base company rules would become obsolete).

30 This assumes no deferral of taxation on foreign income. See Douglas Shackelford & Joel Slemrod, The Revenue Consequences of Using Formula Apportionment to Calculate U.S. and Foreign-Source Income: A Firm-Level Analysis, 5 INT’L TAX & PUB. FIN. 41, 43 (1999) (noting that, if it were required to retain deferral of foreign income under formulary apportionment, it would be necessary to devise a way of adjusting a firm’s taxable income for unrepatriated foreign earnings).

31 This also assumes no deferral of taxation on foreign income, as deferral would at least require an indirect foreign tax credit mechanism.

32 But see infra text accompanying notes 171–174 (explaining that formulary apportionment enforcement would likely require an alternative gross-basis withholding system).

33 See, e.g., Michael J. McIntyre, The Design of Tax Rules for the North American Free Trade Alliance, 49 TAX L. REV. 769, 788–89 (1995) (advocating a “weak permanent establishment” threshold under which the existence of a formulary factor would support jurisdiction to tax, and no “throwout or throwback rule” would be required).

34 See Pomp, supra note 28, at 801 (arguing that formulary apportionment should not rely on an application of source rules).
jurisdiction to tax.  

Of course, it is the combination of all different countries’ international tax rules that causes multinational corporations to waste time tax planning and experience tax incentives that may affect economic location decisions. Formulary apportionment would only replace a particular country’s rules with a fresh jurisdictional regime if that country adopted the formulary method. Unilateral adoption by the United States would only replace United States rules. Adoption of a CCCTB in the EU would only have replaced EU rules — and under the proposal as last formulated would not even have done that since corporations could have elected to be taxed under either CCCTB rules or under existing rules.

C. The Case for Sales-Based Formulary Apportionment

Commentators have offered various different formulas as the basis for a formulary apportionment system. These formulas do not necessarily arrive at an income apportionment result that closely resembles the attribution of profits under a properly operating separate accounting system. But commentators defend them on other grounds.

Ilan Benshalom argues that formulary apportionment is the right solution for some problems of allocating jurisdiction to tax, such as income from intangible-related transactions. He proposes, for example, that the ownership of intangibles such as patents derived from identifiable research and development efforts should be based on “development costs ... incurred in [each] jurisdiction.” He also emphasizes the manipulability of sales and capital in the case of financial institutions and supports use of a payroll factor to divide such institutions’ residual income.

35 See Roin, supra note 1, at 202 (explaining jurisdictional thrust of formulary apportionment proposal).
36 See, e.g., KPMG, A MEETING OF MINDS — RESOLVING TRANSFER PRICING CONTROVERSIES 4 (2008) (noting the challenge of interacting with “tax authorities around the world” who show a “growing divergence of views . . . about what [transfer pricing] should encompass”).
37 See Hines, supra note 5, at 117 (estimating that a three-factor formula generates a prediction error that “exceeds half of predicted profits 65% of the time, and exceeds twice profits 11–13% of the time”).
38 See Benshalom, supra note 15, at 697 (noting that firms should rely on “immobile indicators”).
39 Id. at 682. Benshalom also suggests sourcing income from “passive intangibles” such as marketing and customer intangibles, according to an inelastic “benefit indicator” such as sales. Id.
Elizabeth Chorvat argues that the capital asset pricing model supports the allocation of income within a MNC based on an appropriate risk-free return plus a risk factor or beta return for each member’s assets. The formulaic approach to income allocation for global trading operations explicitly incorporates a risk factor. One suggestion for the EU’s CCCTB project advocated expanding the number of factors to six, two variations each on payroll, property and sales. And others suggest more generally that we should creatively search for appropriate factors and avoid confining the formulary apportionment exercise to the familiar payroll, property and sales factors.

This Article focuses on the idea of dividing corporate income based on the destination of corporate sales. It considers a formulary apportionment approach that would divide the income of a unitary business using a fraction with numerator equal to the sales to customers in a particular nation and denominator equal to worldwide sales — in other words, destination-sales-based formulary apportionment. This idea is similar to that put forth by Reuven Avi-Yonah, Kimberly Clausing, and Michael Durst in a recent article, though those authors proposed first splitting income among related parties based on a fixed return to expenses paid to unrelated parties, and payroll as an important indicator of some financial institution intangible assets and as a factor that is difficult for firms to manipulate, and proposing allocation of residual profits to payroll after allocation of income attributable to tangible property value.

41 See Chorvat, supra note 25, at 1263-65 (describing return-to-capital methods based on the capital asset pricing model and other theories); see also Robert Ackerman & Elizabeth Chorvat, Modern Financial Theory and Transfer Pricing, 10 GEO. MASON L. REV. 637 (2002) (making a similar argument and analogizing to U.S. cost sharing and OECD cost contribution arrangement methodology).

42 See I.R.S. Notice 94-40, supra note 26 (explaining that the factors derive in turn from data points including the compensation of traders and other personnel, the risk exposure of various locations, and/or the value of transactions executed in various locations).

43 Mintz & Weiner, supra note 3, at 106–07 (suggesting the six factors of number of employees, amount of compensation, ratio of tangible property to total property, ratio of intangible property to total intangible property, sales allocated based on origin, and sales allocated based on destination).

44 See Brauner, supra note 19, at 163 (“[T]he formula should focus on an accepted norm for division of income between countries that imitates the general norms we have. It should not be based on mechanisms that we think are appropriate just because we have experience with them if they do not fit the already existing international consensus.”); Paul R. McDaniel, Formulary Taxation in the North American Free Trade Zone, 49 TAX L. REV. 691, 706 (1994) (recommending that the traditional “three factors should not constrain consideration of a proposed formulary system”).

45 This entirely destination sales-based formula was proposed in an earlier article by Avi-Yonah and Clausing. See Avi-Yonah & Clausing, supra note 1, at 327–38 (outlining proposed formula).
then splitting the residual income among jurisdictions based on the sales into such jurisdictions.\(^{46}\)

It is argued that DSFA would abandon the incorrect, awkward and unenforceable separate accounting fiction of arm’s length relationships among affiliated countries; reduce the impact of tax concerns on the location of multinational business operations; reduce income-shifting incentives and tax distortions affecting economic activity location; simplify the global corporate income tax, largely by eliminating onerous and tedious transfer pricing rules; and either increase U.S. corporate tax revenue or fund a significant reduction in the corporate income tax rate.\(^{47}\)

The demand-side focus of DSFA is arguably no less arbitrary than the current system which permits MNCs to shift income through transfer pricing away from any economic source of value — whether supply or demand — to an unrelated low-tax jurisdiction.\(^{48}\) But there are implementation issues such as defining a unitary business,\(^{49}\) the destination of sales\(^{50}\) and a common tax base.\(^{51}\) Tax treaty networks, World Trade Organization rules, and possible disparate effects of FA adoption for different nations or different types of corporations raise other concerns.\(^{52}\)

The case for DSFA rests on the central point that sales are relatively inelastic.\(^{53}\) Incentives to assign asset and payroll factors to low-tax

\(^{46}\) Avi-Yonah, Clausing & Durst, supra note 1, at 508–09, 540–41 (describing proposal and penciling in a 7.5% markup on expenses).

\(^{47}\) See Avi-Yonah, Clausing & Durst, supra note 1, at 510–15 (outlining points). This paper does not analyze the revenue effects outlined in the Avi-Yonah, Clausing, and Durst paper, which stem from the fact that the fraction of world sales into the United States exceeds the share of world income currently attributed to the United States. See id. at 513-14 (citing possible corporate revenue increase of 36% if MNCs retained their existing shares of sales); see also Shackelford & Slemrod, supra note 30, at 53 (estimating, based on examination of large corporation sample financial reports, increases in corporate tax revenues of 26% for a sales-only factor under formulary apportionment). The cited studies do not take into account MNCs’s likely responses to the adoption of a DSFA system. See, e.g., id. at 42.

\(^{48}\) See Avi-Yonah, Clausing & Durst, supra note 1, at 516–17.

\(^{49}\) See id. at 518, 548–49 (recommending a unitary business definition based on ownership or control and a cohesive business “activity”).

\(^{50}\) See id. at 517–18 (noting the difficulty of “determin[ing] the geographic distribution of a party’s sales revenue,” including the challenge of assigning a location for sales of intermediate goods and suggesting that this difficult exercise would “require toleration of some degree of reasonable estimation and generally will require some restraint in enforcement”).

\(^{51}\) See id. at 522–23 (suggesting that international accounting standards could serve as a starting point and exploring a unilateral U.S. option).

\(^{52}\) See Avi-Yonah & Clausing, supra note 1, at 338–41.

\(^{53}\) See Avi-Yonah, Clausing & Durst, supra note 1, at 509 (“The key advantage of a
countries present a concern both because they can result in resource misallocation and because they can generate inefficient tax planning activities. Thus, the exclusion of assets from the DSFA formula aims to eliminate the incentive for corporations to offshore intellectual and other property as firms do under rules such as the U.S. cost-sharing and buy-in regulations. The exclusion of payroll aims to eliminate MNCs’ incentive to employ workers in low-tax countries as well as their ability to manipulate a payroll factor by outsourcing services to unrelated contract manufacturers.

The inelasticity of sales follows from significant business incentives to increase sales to customers, which should minimize the importance of tax incentives to assign sales to different locations. Since 1978, the U.S. states have been moving toward increasingly sales-heavy formulas out of a stated desire to attract property and payroll productive capacity to their states, especially after other and particularly neighboring states have increased the sales weights in their apportionment formulas. The states are presumably

sales-based formula is that sales are far less responsive to tax differences across markets than investment in plant, and employment, as the customers themselves are far less mobile than firm assets or employment. See also Michael P. Devereux, Taxation of Outbound Direct Investment: Economic Principles and Tax Policy Considerations, 24 OXFORD REV. ECON. POL’Y 698, 717 (2008) (considering the possible optimality of a destination-based tax); Theodore P. Seto, Four Core Principles of Tax System Design: Introduced and Applied to the Taxation of Multinationals 8 (Loyola-LA Legal Studies, Paper No. 2008-36, 2008), available at http://ssrn.com/abstract=1303717 (outlining a sales-based formulary apportionment proposal within an optimal tax framework).

See Brauner, supra note 19, at 161 (explaining that multinationals manipulate the existing transfer pricing rules governing intangible valuation); Roin, supra note 1, at 230 (noting strategy of locating “all valuable intangible property, to say nothing of business risks” in a low-tax jurisdiction).

Cf. Austan Goolsbee & Edward L. Maydew, Coveting Thy Neighbor’s Manufacturing: The Dilemma of State Income Apportionment, 75 J. PUB. ECON. 125, 142 (2000) (reporting the result that reducing the payroll weight in one U.S. state increases employment there but decreases employment by a similar amount in nearby states).

See Roin, supra note 1, at 230–32 (describing the possible allocation of payroll factor outside the taxed controlled group).

See Avi-Yonah, Clausing & Durst, supra note 1, at 509 (“Even in a high-tax country, firms have an incentive to sell as much as possible.”).

See Avi-Yonah, Clausing & Durst, supra note 1, at 509 (citing among others Kelly D. Edmiston, Strategic Apportionment of the State Corporate Income Tax: An Applied General Equilibrium Analysis, 55 NAT’L TAX J. 239, 249–50 (2002) (reporting results of a general equilibrium model showing that unilaterally increasing the weight of a state’s sales factor increases productive economic activity in that state and that some states should win and some lose if all states simultaneously increase sales factor weights); Thomas C. Omer & Marjorie K. Shelley, Competitive, Political, and Economic Factors Influencing State Tax Policy Changes, 26 J. AM. TAX’N ASS’N 103, 123–24 (2004) (reporting that states responded
also motivated either by a belief that in-state sales are inelastic and therefore will not decrease or by a judgment that any welfare loss from a decrease in in-state sales will be more than offset by welfare gains, including gains from increasing in-state production assets.\textsuperscript{59}

If unilateral U.S. enactment of a DSFA system set off a similar domino effect that led to global DSFA, the series of events might proceed as follows: First, unilateral U.S. enactment would attract productive capacity to the U.S. Then, other nations would adopt similar sales-based formulas to counteract the effect of a U.S. DSFA system and encourage the location of production assets in their non-U.S. jurisdictions instead.\textsuperscript{60}

Would the domino effect work as forecast? And, if so, would the result be good compared to the current international corporate income tax situation? Parts II and III, respectively, deal with these questions.\textsuperscript{61}

\textit{D. VAT Is Not the Question}

The premise that destination sales are inelastic supports the U.S. adoption of a value-added tax (or other consumption tax) more strongly than the adoption of global DSFA, all other considerations (such as distributional concerns) equal.\textsuperscript{62} Under a VAT, various complications and inefficiencies that arise under DSFA would not present themselves. For example, the cross-border merger distortions described below in Part III.C would not crop up because these arise from incentives to allocate profit in kind to formula changes in neighboring states based on empirical study of state formula changes in the twenty years after the approval of Iowa’s sales-only formula in \textit{Moorman Manufacturing Co. v. Blair}, 437 U.S. 267 (1978)).

\textsuperscript{59} See, e.g., Edmiston, \textit{ supra} note 58, at 260 (“[T]he welfare-enhancing economic development benefits tend to outweigh any welfare-reducing effects, namely, higher tax-inclusive consumer prices and in some states, larger corporate tax shares of the revenue stream.”).

\textsuperscript{60} Avi-Yonah, Clausing & Durst, \textit{ supra} note 1, at 519 (“[U]nilateral adoption by the United States of a [formulary apportionment] system . . . would create a powerful incentive for other countries using separate accounting to adopt similar new systems.”).

\textsuperscript{61} This paper does not analyze the revenue effects outlined in the Avi-Yonah, Clausing and Durst paper. \textit{See supra} note 47.

\textsuperscript{62} See James R. Hines, Jr. & Lawrence H. Summers, \textit{How Globalization Affects Tax Design}, 23 \textit{TAX POL’Y \\ \\ \\ \\ & ECON.} 123, 126 (2009) (“The popularity of expenditure taxes is due in part to their administrative and enforcement features and in part to their efficiency properties. In a globalizing world, expenditures have relatively clear geographic associations, reducing the potential for international tax avoidance and generally reducing the mobility of the tax base compared to alternatives such as personal income taxes or source-based business taxes including the corporate income tax.”); Roin, \textit{ supra} note 1, at 238–39 (arguing that a formulary apportionment tax with a necessary gross basis withholding mechanism would resemble a VAT).
(rather than sales) to a particular jurisdiction, and at least some origin-based incentives would be reduced, as the business-to-business sales described as a concern under DSFA in Part II.C.3 and III.C are properly accounted for under VAT rebate systems.\textsuperscript{63} Because most other nations have a VAT,\textsuperscript{64} global coordination on the scale described in Part III.D.1 would not be required, and the domino effect considered in Part II would not be necessary to the success of the endeavor.\textsuperscript{65} Certainly, there would be administrative issues, some similar to those described in Part III.D.2 below, but other nations’ experience provides a helpful roadmap.\textsuperscript{66} Finally, VAT adoption would not present the problem of negotiating one’s way into an inflexible international taxation norm of corporate income taxation, as discussed below in Part III.E.

The promising connection between inelastic sales and VAT adoption highlights that DSFA does not solve for the tax that best leverages the relative inelasticity of destination sales. It is a corporate income tax reform. It seeks to replace the mechanism for allocating corporate income tax jurisdiction among nations, including by replacing the flawed arm’s length concept that underlies transfer pricing. This brings us to the exercise of Parts II and III: the consideration of whether the domino effect would occur, prompting other nations to follow the U.S. example of DFSA adoption, and whether global DSFA would improve on the existing international corporate income tax system.

II. DSFA DOMINO EFFECT?

A. Why Managers Will Tax Plan Under DSFA

1. DSFA Compared to Sales Tax

The occurrence of a global domino effect similar to the U.S. states’ cascading adoption of sales-based apportionment would turn on whether unilateral adoption of DSFA in the United States caused managers to move productive capacity into the United States, or at least on whether other

\textsuperscript{63} The concerns about origin-based incentives for services and intellectual property arise under a VAT to the extent the relevant VAT rules use place of performance proxies. \textit{See infra} Part II.C.2.

\textsuperscript{64} \textit{See}, e.g., Hines & Summers, \textit{supra} note 62, at 137–39 (comparing other OECD countries’ VAT systems and rates).

\textsuperscript{65} \textit{See} Stephen E. Shay & Victoria P. Summers, \textit{Selected International Aspects of Fundamental Tax Reform Proposals}, 51 U. MIAMI L. REV. 1029, 1035 (1997) (noting that “personal consumption tax” proposals such as the flat tax deviate from the “existing international model of the VAT”).

countries perceived that productive capacity was shifting to the United States. This raises an initial incidence question. Why would managers bother to plan to reduce the corporate DSFA tax in the first place?

This issue is raised by work that shows that in some circumstances the additional corporate tax that results from the application of a sales-based formula looks a lot like a sales tax to the corporation that remits it. If a DSFA tax were basically equivalent to a sales tax, perhaps the incidence of a formulary apportionment tax would, like a sales tax, be shifted to the consumer, leaving corporate managers with little incentive to reduce it. But this is not the clear result. Instead, a DSFA tax seems likely enough to fall on a corporation’s employees or shareholders to provide managers with adequate reasons to spend energy on minimizing the DSFA burden. At the same time, the possibility that consumers or intermediate business purchasers would sometimes bear the tax cannot be ruled out.

Charles McLure developed the idea that formulary apportionment involves an “implicit tax” on each of the factors in the formula. He showed an approximate equivalence in the additional amount of tax remitted by a corporation under a retail sales tax or under a formulary apportionment corporate income tax based on destination sales under several assumptions. First, he examined the effect of a formulary apportionment tax in one jurisdiction assuming that all other jurisdictions used separate accounting systems. Second, he focused on a situation where a firm sells a small proportion of its product into a taxing jurisdiction. Third, at least one form of his analysis makes the assumption that sales do not increase profits.

The first assumption of unilateral formulary apportionment by a taxing jurisdiction is consistent with the idea of unilateral U.S. adoption described by some DSFA proponents. However, the second two assumptions, relating to sales into low-sale states and a lack of connection between sales and profits, are not consistent with the global experience of many firms that would be affected by DSFA adoption. Varying these factors produces significantly different tax rates for differently taxed firms under a DSFA system.

Finally, there are two additional difficulties with relying on this analysis to support a general conclusion that a DSFA system would fall on consumers. One is that, as McLure acknowledged, not all business firms,

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67 Avi-Yonah, Clausing & Durst, supra note 1, at 509.
68 Charles E. McLure, Jr., The Elusive Incidence of the Corporate Income Tax: The State Case, in Economic Perspectives on State Taxation of Multijurisdictional Corporations 27, 31 (1986) (noting that if all jurisdictions used the same formula to apportion corporate income and imposed the same rate, the income tax base, not the particulars of the formula, would determine the nature and incidence of the tax).
Indeed not all corporations, would be required to pay tax under a DSFA system. The second is that because the DSFA tax is necessarily “hidden” — i.e., cannot be separately posted but must be incorporated into the price of a good — consumers may be less willing to accept the burden of the tax.

2. Heterogeneity of Firm Tax Treatment Under DSFA

McLure shows that, “if . . . the firm sells only a small fraction of its output in the taxing state [and] the change in sales under analysis occurs principally in the taxing state,” formulary apportionment of corporate income based on a sales factor closely approximates a “gross receipts tax levied on the corporation’s sales in that state.” 69 In this low-sale state case, the tax affecting a firm’s profit maximization decision will consist almost entirely of the incremental corporate tax calculated on the marginal sale in the taxing state. The taxed firm calculates its additional corporate income tax approximately like a gross receipts tax on the amount of sales. 70 In contrast, a formulary apportionment tax has more significant income tax character in states into which firms sell predominantly. In such high-sale states, a high proportion of sales means that most of the income will be attributed to the taxing state in any case, so that the firms’ income tax calculation drives the tax bill to a greater extent.

Thus McLure’s calculations show, for example, that if 5% of a firm’s sales are into a taxing state, about 95% of the “sales-related part of the state corporation income tax” is “equivalent to a sales tax.” If 80% of a firm’s sales occur in the taxing state, only 20–22% of the sales-related formulary apportionment tax is “equivalent to a sales tax” (depending on the tax rate). Under McLure’s formula, at a 25% corporate tax rate, Nokia, selling into a low-sale state with 4% of sales into the U.S. in 2008, 71 would experience a U.S. DSFA system as a sales tax to the extent of about 97%. Motorola, selling into a high-sale state with 49% of sales into the U.S., 72 would


70 See id. at 13 (“Thus for a state constituting a small fraction of the national market for a firm’s products, the sales-related portion of the state corporation income tax under a formula allocation rule is essentially equivalent to a simple gross receipts tax levied on the corporation’s sales in that state, though at rates that differ between firms.”).


experience such a system as a sales tax only to the extent of approximately 37%.

Another way of looking at the impact of a formulary method on different firms is to acknowledge that while an incremental sale will increase a given corporation’s tax bill, the rate of tax differs among firms.\(^73\)

Consider an example based on the Motorola and Nokia figures cited above. Assume a multinational firm that sells 100 units as a base case, at a per-unit price of $30. Further assume a tax rate of 25%, and a fixed profit of $2,000. If the firm sells 4 out of 100 units into the taxing jurisdiction as a base case, a destination sales-based formulary apportionment system will result in a tax rate of 15.8% on the amount of an incremental sale of one unit into the jurisdiction. If the firm sells 49 out of 100 units into the taxing jurisdiction as a base case, a destination sales-based formulary apportionment system will result in a tax rate of 8.4% on the amount of an incremental sale of one unit into the jurisdiction. Similar results are shown in Table I in Appendix 1.\(^74\)

Relaxing the assumption of fixed profits causes tax rates to behave differently. For example, when profits are a linear function of sales, a unilaterally imposed DSFA tax has the same effective tax rate regardless of the proportion of sales into the taxing jurisdiction, and can be said to be equivalent to an income tax as well as a sales tax. Table II in Appendix 1 illustrates this scenario.

Table III in Appendix 1 makes yet a third assumption about the relationship between profits and sales. It considers the results for DSFA tax liability if a firm’s income equals a percentage of profits less fixed costs. In this last situation, when marginal sales push revenues above costs and the firm into profitability, the resulting profits are allocated mainly to high-sale states even if the marginal sales occurred in low-sale states. Thus, a sale into a low-sale state under this assumption produces a tax rate in the state of sale that is materially lower than a sale into a high-sale state. This is the opposite of the result obtained under the fixed-profit assumption that is illustrated in Table I.

This heterogeneous result of different tax rates for different firms is an important factor that distinguishes a DSFA system from a sales tax system. And heterogeneity would result not only from different proportions of goods sold into a taxing jurisdiction and from different relationships

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\(^73\) McLure observed that an apportioned corporate income tax, though similar to a gross receipts tax, would be levied “at rates that differ between firms.” McLure, supra note 69, at 13.

\(^74\) See infra Appendix 1, Table I (listing effective tax rates for an incremental sale into a taxing jurisdiction where the base case sale level is one, ten, fifty, and eighty, respectively, out of one hundred).
between sales and profits (as discussed above) but also because a selling firm would remit the DSFA tax only if it is a corporation for income tax purposes and has positive taxable income, and only when the corporate income tax return (or related estimated taxes) are due. Unprofitable corporations, partnerships and sole proprietorships would not pay a DSFA tax.

Studies of distributional tax effects often assume that the consumer bears the burden of sales, excise and other ad valorem or unit taxes. This is consistent with available empirical work showing full shifting or over-shifting of sales taxes to consumers. Empirical evidence similarly suggests that consumers likely bear approximately the full burden of value-added taxes.

But the consensus view that sales and VAT taxes are fully or over-shifted to consumers does not support the general conclusion that

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76 See, e.g., James Alm, Edward Sennoga & Mark Skidmore, Perfect Competition, Urbanization, and Tax Incidence in the Retail Gasoline Market, 47 Econ. Inquiry 118 (2009) (reporting almost instant shifting forward of gas tax increases in most markets); James M. Poterba, Retail Price Reactions to Changes in State and Local Sales Taxes, 49 Nat’l Tax J. 165, 172–73 (1996) (reporting that tax changes for categories of goods such as women’s clothing were shifted forward to consumers by about two thirds between 1925 and 1939 and fully between 1947 and 1977).


78 See, e.g., Charles E. McClure Jr., The Value-Added Tax: Key to Deficit Reduction? 45–46 (1987) (noting that in Denmark and Norway, where a VAT did not replace other taxes and where therefore data were cleaner, consumer prices rose upon enactment); Michael Smart & Richard M. Bird, The Economic Incidence of Replacing a Retail Sales Tax by a Value-Added Tax: Evidence from Canadian Experience 35 Can. Pub. Pol’y 85, 95 (2009) (concluding based on event study following some Canadian provinces’ replacement of retail sales taxes with value-added taxes, that changes in taxes related to the transition were fully shifted (and perhaps in some cases over shifted) to consumers).

79 This consensus view of sales tax burden-shifting to consumers developed in contrast to public finance theory predictions that, in a perfectly competitive market, the incidence of a sales tax will split between consumer and producer depending on the elasticities of supply and demand for the product at issue. See, e.g., Harvey S. Rosen, Public Finance 313–14 (8th ed. 2008) (describing theory of incidence of ad valorem tax). It is more consistent with theories of sales tax incidence in an imperfectly competitive market. See, e.g., Don Fullerton
consumers also would bear a DSFA tax. This is because existing research considers taxes that are levied at the time of sale on a good or service regardless of the legal structure or income tax characteristics of the selling firm. In contrast, significant heterogeneity in the tax treatment of firms under a DSFA tax would exist.

The fact that different producers of a particular good could pay DSFA tax at different rates and that some would not be required to pay the tax at all, constitutes a significant discrepancy between the DSFA tax and the sales and similar taxes considered in existing models and empirical studies. For example, if a taxed firm anticipated that an untaxed firm would not increase its prices in response to the tax, the taxed firm might not raise its prices in response to a tax increase. Other differences in the extent and timing of the firms’ experience of the DSFA tax as a sales tax might also mute the effect of shifting the tax forward to consumers. This is consistent with the view taken by McLure, who pointed out the pressure for the incidence of a destination sales-based formulary apportionment tax to imitate that of a retail sales tax and fall on consumers, but also noted that, to the extent goods or services were available on a broader market in which untaxed firms participated, taxed firms might be unable to shift a DSFA tax forward to all consumers. The uncertain incidence conclusion is also consistent with the corporate income tax incidence literature, though that

& Gilbert E. Metcalf, Tax Incidence, in 4 HANDBOOK OF PUBLIC ECONOMICS 1788, 1823–32 (Alan J. Auerbach & Martin Feldstein eds., 2002) (describing different incidence results obtained under models of oligopolies and differentiated products). For example, the price paid by a consumer may increase by more than the amount of the related tax if a producing firm has sufficient market power to make up for revenue lost due to decreased demand for the product. See id. at 1825.

80 See McLure, supra note 69, at 12 n.15 (“One is tempted to go on from this result to say that the tax reduces sales in the taxing state, increases the prices of goods sold there, and is passed on in part to consumers. That is more than need be said at this point, however, and more that can be said without a more detailed examination of conditions in the industry, including the market interaction of corporate firms of various degrees of profitability, unincorporated firms, and consumer demand.”).

81 A recent study examining gas tax and price increases makes a relevant observation about firm heterogeneity. Its authors observe that, in contrast to gas taxes, firms “asymmetric[ally]” pass on increases in the wholesale cost of gasoline to consumers. The study’s authors hypothesize that this may be due to an inventory effect: some sellers who have stockpiled gasoline do not experience immediately increased costs and may choose not to increase their price. See Alm, Sennoga & Skidmore, supra note 76, at 127-29.

82 McLURE, supra note 68, at 31–32 (“Competition from firms . . . not subject to the tax would preclude this forward shifting.”).

83 Harberger’s classic analysis of corporate tax incidence reached the conclusion that capital bears the burden of a corporate income tax under an assumption that the economy was closed, so that capital had to choose between a taxed or untaxed sector and would in the
considerable body of work approaches the problem from a different starting


In contrast, a model that assumes an open economy where imported and home-produced goods are perfectly substitutable and capital is perfectly mobile reaches the conclusion that corporate tax falls at least in part on local labor or other fixed local factors. See William M. Gentry, Dep’t of the Treasury, Office of Tax Analysis, A Review of the Evidence on the Incidence of the Corporate Income Tax 16 (2007) (“In an open economy, the corporate tax can cause a reallocation of capital across countries as well as across domestic sectors. If capital is mobile (and labor is immobile) across jurisdictions, then labor’s share of the tax burden can be high.”); Roger H. Gordon & Jeffrey K. MacKie-Mason, Why Is There Corporate Taxation in a Small Open Economy? The Role of Transfer Pricing and Income Shifting, in THE EFFECTS OF TAXATION ON MULTINATIONAL CORPORATIONS 67, 67–68, 88 (Martin Feldstein, James R. Hines, Jr. & R. Glenn Hubbard eds., 1995) (noting that a more transparent payroll tax appears a better choice than a corporate tax for a small open economy but positing that the corporate tax may still exist as a backstop to the personal tax on labor income as it discourages income shifting from the personal to the corporate tax base). Some recent empirical studies support the conclusion that labor bears part of the corporate tax burden. See, e.g., Gentry, supra, at 5–13 (describing empirical work connecting higher corporate tax rates and lower wages).

If, despite the theoretical openness of an economy, capital is not perfectly mobile, or imported and home-produced goods are not perfectly substitutable, this conclusion that the corporate income tax falls at least in part on labor weakens, and it becomes more likely that capital bears the burden of the corporate income tax, consistent with the Harberger theory. See, e.g., Jane Gravelle, The Corporate Income Tax: Economic Issues and Policy Options, in TAX POLICY IN THE REAL WORLD 15, 22 (Joel Slemrod ed., 1999) (“Essentially, imperfect substitutability of either capital or goods acts to effectively close the economy for purposes of tax incidence.”); Jane G. Gravelle & Kent A. Smetters, Does the Open Economy Assumption Really Mean That Labor Bears the Burden of a Capital Income Tax?, 6 ADVANCES IN ECON. ANALYSIS & POL’Y Art. 3, at 4 (2006) (reporting results of general equilibrium model showing that, if exports and imports are imperfectly substitutable, domestic labor is less likely to bear the burden of a corporate income tax).

Consumers do not bear the burden of the corporate income tax if it is assumed that the market for goods is competitive. See, e.g., Harberger, supra, at 217–19 (outlining a scenario in which competitive pricing prevents burden shift to consumers, although some prices may rise and some fall following a corporate tax increase). Whatever the model, there remains the possibility that corporate tax incidence could fall on consumers if this assumption is incorrect, for example, in situations where firms have not fully exercised their ability to raise consumer prices before a tax increase. See Richard A. Musgrave & Peggy B. Musgrave, PUBLIC FINANCE IN THEORY AND PRACTICE 401–06 (1973) (stating, in connection with a discussion of the Harberger model, that corporate tax incidence could fall on consumers or labor in situations (e.g., restrained profit maximization or oligopoly) where, in the before-tax world, firms have not fully exercised their ability to raise consumers’ prices or reduce labor compensation).
3. A DSFA Tax Would Be Hidden

The way that a DSFA tax would be presented to consumers might also make consumers less likely to accept the full burden (or more) of a DSFA tax relative to a sales tax. “[C]onsumers may engage in a kind of cognitive loafing: they know of the tax but simply don’t bother to compute the tax-inclusive price of an individual item, perhaps because the utility of avoiding that calculation is higher than the value of the savings.”

Because a DSFA tax is calculated at the corporate level based on inputs including factors other than the amount of the sale, it must be included in the price of the good; it cannot be hidden from the consumer’s cognitive process like an ad valorem sales tax not added on until checkout.

4. Reason to Plan, But Buyer Incidence Possible

The point of the incidence discussion in this Part II.A has been to argue that there is no compelling reason to believe that a DSFA tax would be shifted forward to consumers as a matter of course, as retail sales taxes and VATs appear to be shifted, although firms might well observe a direct and quantifiable connection between incremental sales and their corporate tax liability. A DSFA tax might — and perhaps more importantly, corporate managers should think that it might — fall on other stakeholders, such as shareholders and employees. Consequently, corporate managers should have sufficient reason to spend energy planning to reduce their firms’ DSFA tax, which otherwise could be expected to reduce their salaries and those of other employees and/or returns to a shareholder group to which

84 Cf. Richard M. Bird & Eric M. Zolt, Redistribution via Taxation: The Limited Role of the Personal Income Tax in Developing Countries, 52 UCLA L. REV. 1627, 1640 (2005). (“The incidence of consumption taxes [on the consumer] rests on the assumption that all demands are perfectly inelastic (or supplies perfectly elastic), while the incidence of income and wealth taxation often makes exactly the opposite assumption . . . .”).


86 Some sales and excise taxes, however, including the gas tax studied in Alm, Sennoga & Skidmore, supra note 76, are typically included in the posted price of the good.
managers are responsible and to which they may also belong.\textsuperscript{87}

But the analysis also does not rule out the possibility that a DSFA tax would fall on consumers — including intermediate business purchasers. The fact that firms can see a direct relationship between an incremental sale and an increase in their corporate tax might permit them to choose to shift the burden of a DSFA tax to customers by offering differentiated pricing depending on the customer’s location. This might be possible if competing firms had similar features such as sales-to-profit relationships, corporate structures and tax profitability that caused the incremental corporate tax from a corporate sale to be similar for all competitors in the market. In addition, in some business-to-business sale situations, prices could conceivably be individually negotiated. This idea underlies the claim in Parts II.C.3 and III.C that under unilaterally adopted or global DSFA, a supplier firm might offer better prices to intermediate firms in lower-tax jurisdictions.

\textit{B. Productive Capacity Shift to DSFA-Adopting Jurisdictions}

So how would managers plan to reduce a DSFA tax? The domino effect idea includes the premise that if the United States unilaterally adopted a DSFA tax, there would be a reduced U.S. tax burden on production factors within the United States, but non-U.S. corporate income measures would continue to depend to the same extent as before on the return on assets and other production factors located outside the United States under historic separate accounting systems. Managers might react by shifting productive capacity — capital investment and related jobs — to the U.S. jurisdictions. This could cause other nations to adopt similar systems, producing global DSFA, just as U.S. states have followed each others’ lead in increasing sales factor weights.\textsuperscript{88}

\textsuperscript{87} Cf. Reuven S. Avi-Yonah, \textit{Corporations, Society, and the State: A Defense of the Corporate Tax}, 90 Va. L. Rev. 1193, 1247 & n.251 (2004) (describing the “limiting function” of the corporate income tax, which reduces the wealth of corporations and therefore the power of corporate managers). The concept of the limiting function suggests that corporate managers would care more about minimizing taxes that would otherwise reduce the wealth of the corporation and less about minimizing taxes that would otherwise reduce the wealth of the corporation’s customers.

\textsuperscript{88} See Avi-Yonah, Clausing & Durst, supra note 1, at 519 (“In a world with both formulary and separate accounting systems, formulary countries will immediately appear as tax havens from a separate accounting country perspective,” thus presenting separate accounting countries with a “strong incentive to adopt formulary approaches.”). An increase in U.S. production and/or decrease in U.S. consumption also might be considered desirable independently of its possible usefulness as a tool to achieve global DSFA. One view is that U.S. consumption must decrease to correct trade imbalances. \textit{Cf. e.g.}, Chrystia Freeland,
Such a productive capacity shift is related to Roger Gordon and John Wilson’s concept of cross-hauling. They describe cross-hauling as a phenomenon that occurs when all jurisdictions have adopted formulary apportionment although at different rates: “[I]f we find two types of firms producing the same good, one producing mainly in high tax states and the other producing mainly in low tax states, then tax incentives should lead the first to transport its output to low tax states and the second to transport its output to high tax states . . . .”89 The productive capacity shift described here comprises one element of this phenomenon of cross-hauling, which is expected to cause the pairing of production in a state which taxes productive activity relatively lightly (i.e. the U.S., under unilaterally adopted DSFA) with sales into states which tax productive activity relatively heavily (i.e. outside the U.S.).90

A perceived shift in productive capacity to the U.S. states which have adopted sales-heavy formulas appears to have motivated other U.S. states to follow suit, one after the other.91 Reasoning by analogy from the U.S. state case thus suggests that if the U.S. adopted DSFA, others would follow. Some models predict some attraction of productive capacity to a jurisdiction that increases the importance of sales in its apportionment formula.92 Some empirical studies also report such a productive capacity shift following an increased weighting of the sales factor in the corporate income allocation formula applied by a certain state, but the magnitude of the shift is unclear.

For example, a study of Georgia’s move to a double-weighted sales

90 See id. at 1370 (explaining cross-hauling under a three-factor formula).
91 See Omer & Shelley, supra note 58, at 114-15 (listing information about the timing of states’ changes to more sales-heavy formulas). See also id. at 118 (“[I]ndustry competition and the ease with which companies can shift property or jobs from one state to another increases the probability” of a change to an apportionment formula that places more weight on sales.”).
92 See, e.g., Bharat N. Anand & Richard Sansing, The Weighting Game: Formula Apportionment as an Instrument of Public Policy, 53 NAT’L TAX J. 183, 193–94 (2000) (predicting an incentive to increase sales factor for importing states); Edmiston, supra note 58, at 249–50 (reporting the results of a general equilibrium simulation model showing that unilaterally increasing the weight of a state’s sales factor increases productive economic activity in that state in the long run by as much as 1.5%, though short run effects were much more modest).
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formula suggested that it produced a 2% increase in business firm property located in Georgia. But other work suggests minimal productive capacity shifting as a result of the adoption of formulary apportionment. One empirical model that controlled for endogenous factors such as business climate and energy cost suggested that a 1% decrease in the “burden” of the corporate income tax on property (calculated as the product of tax rate change and property factor weight change) would produce only a 0.3% increase in capital investment in the taxing jurisdiction. Other work also shows a decrease in in-state sales after a taxing jurisdiction increases the sales factor weight, although it is not clear whether this decrease follows from an actual decline in in-state consumption or a change in planning regarding the reported location of such sales.

The experience of states following each others’ moves to an increasingly sales-weighted corporate income apportionment formula may reflect a perception within state governments that such measures are necessary to avoid the flight of business investment from their jurisdictions. But the empirical evidence on the extent of the movement of business investment is mixed. One empirical model that controlled for endogenous factors such as business climate and energy cost suggested that a 1% decrease in the “burden” of the corporate income tax on property (calculated as the product of tax rate change and property factor weight change) would produce only a 0.3% increase in capital investment in the taxing jurisdiction. Other work also shows a decrease in in-state sales after a taxing jurisdiction increases the sales factor weight, although it is not clear whether this decrease follows from an actual decline in in-state consumption or a change in planning regarding the reported location of such sales.

93 See Kelly D. Edmiston & F. Javier Arze del Granado, Economic Effects of Apportionment Formula Changes: Results from a Panel of Corporate Income Tax Returns, 34 PUB. FIN. REV. 483, 501 (2006) (reporting, based on Georgia corporate income tax return data, that a switch to a double-weighted sales formula increased the in-state use of productive factors). See also Goolsbee & Maydew, supra note 55, at 142 (“The results suggest that switching from one-third to one-quarter payroll weight increases manufacturing employment in a state by approximately 1.1%.”).

94 Sanjay Gupta & Mary Ann Hofmann, The Effect of State Income Tax Apportionment and Tax Incentives on New Capital Expenditures, 25 J. AM. TAX’N ASS’N 1, 14–16, 22 (2003) (reporting connection between tax burden and capital investment and labeling the impact of decreased weighting of a property factor “almost negligible”). Empirical work done by Joann Weiner is consistent with this conclusion. See Weiner, supra note 2, at 96 (describing 1994 paper results indicating that the use of different apportionment formulas cannot explain the different capital-labor ratios in different states and that a reduction in property factor weight causes increased investment in a state that is “statistically significant, but empirically not very large.”). In contrast, the flight of mobile capital away from a jurisdiction that imposes an interest withholding tax appears to be more immediate and significant. See Avi-Yonah, supra note 12, at 1583 (“In 1988, [the German] government introduced a relatively low 10% withholding tax on interest on bank deposits but had to abolish it within a few months because of the magnitude of capital flight to Luxembourg.”) (citing Leif Muten, International Experience of How Taxes Influence the Movement of Private Capital, 8 TAX NOTES INT’L 743, 745–46 (1994)

95 See, e.g., Edmiston & Arze del Granado, supra note 93, at 501 (reporting, based on Georgia corporate income tax return data, that a switch to a double-weighted sales formula decreased in-state sales); Mary Ann Hofmann, The State Corporate Income Tax: A Synthesis of Recent Research, 21 J. ACCT. LITERATURE 76, 105–08 (2002) (reporting empirical research suggesting that firms react to increased weight on sales by shifting sales, at least for tax purposes).
investment to a jurisdiction that increases the sales weighting of its formula is mixed. Despite the U.S. state experience, a non-U.S. country might not assume that unilateral U.S. adoption of DSFA would put the non-U.S. country at such a disadvantage in attracting productive capacity that it should adopt a DSFA system itself.

C. Origin-Based Incentives

1. Origin-Based Incentives Cut Against Productive Activity Location in a DSFA-Adopting Jurisdiction

The prediction of productive activity migration to a DSFA-adopting jurisdiction follows from the premise that increased reliance on a sales factor reduces the connection between productive capacity and corporate income tax burden. This presumes sales measured at destination. A DSFA system would seek to allocate sales to their final destination, but in some cases it would not be able to do so. Instead, as in VAT systems, the DSFA system would need to use administrable proxies for the location of the final consumer. In some cases, these proxies would not work well, as the cases of services and intellectual property illustrate. Business-to-business sales also present a problem.

An origin-based incentive would push firms to locate productive capacity outside the United States after the unilateral implementation of a U.S. DSFA system. This contrasts with the incentive described above in Part II.B, which would incent firms to locate productive activity inside the United States. Thus, origin-based incentives would weaken the predicted domino effect in which other nations follow the United States lead and adopt DSFA as their system.

The empirical evidence cited above in Part II.B. appears to suggest that there is a statistically significant increase in productive capacity in a state that raises the sales weight of its corporate apportionment formula, but that that increase is modest and likely occurs in the long term. Perhaps one reason some studies find a muted effect is the existence of countering origin-based incentives, in addition to other factors such as the relative immobility of business property. It is also possible that origin-based

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96 See generally Rebecca Millar, Jurisdictional Reach of VAT, in VAT IN AFRICA 175, 179, 182–84 (Richard Krever ed., 2008) (describing various proxies for consumption location under different VAT systems).

97 Theoretical models that predict the attraction of property to a state that adopts a more sales-heavy formula have not generally fully incorporated the problem of origin-based incentives. See, e.g., Anand & Sansing, supra note 92, at 186 (assuming that “sales are allocated on the basis of destination”); Edmiston, supra note 58, at 243–44 (noting the
incentives, in particular business-to-business sales, are more prevalent in international trade than they are in interstate commerce.

2. Services and Intangible Property Proxies

Most U.S. states give services a where-performed situs for purposes of their corporate income apportionment formulas, though some have adopted a customer-location rule instead.\(^98\) Intangible property is often connected to the state where the related “income-producing activity” occurs.\(^99\) A services place-of-performance rule and an intangible property income-producing activity rule both translate to an origin-based incentive that influences the location of firms’ productive activity.

One might try to alleviate this problem by changing the sale situs for services and intangible property for DSFA purposes to the location of consumption rather than the location of performance.\(^100\) But this is a difficult exercise. Perhaps it is possible to determine the physical location of a computer through which a single user purchases a license or online service. But in more complex situations, including situations featuring multiple consumption locations, authorities might resort to treating the purchasing or headquarters location as the location of consumption — a rule that would encourage the location of purchasing functions or headquarters in jurisdictions with low correlations between domestic sales and tax liability.

One might also constrain firms’ ability to manipulate the situs of services by requiring them to match the location of services for DSFA purposes with the location where the purchaser takes a deduction for payment for such services.\(^101\) But only business purchasers would take

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\(^98\) See HELLERSTEIN & HELLERSTEIN, supra note 28, at ¶ 9.18[3] (noting that many states attribute services sales based on performance location, that others attribute service revenue to the location of the sales office that arranges the performance of the services, and that a few states including Georgia, Iowa, and Wisconsin base the situs on the location of the recipient of the services).

\(^99\) Id. ¶ 9.18[4].

\(^100\) Roin gives the examples of an airport haircut and an Internet download to illustrate the difficulty of determining the location of service provision. See Roin, supra note 1, at 209 & n.140 (citing Dolores W. Gregory, Formulary Apportionment in a Service Economy: After 50 Years, Is UDIPTA in Need of an Overhaul?, 44 DAILY REP. FOR EXECUTIVES (BNA), Mar. 7, 2007, at J-1).

\(^101\) See Avi-Yonah & Clausing, supra note 1, at 336 (“For business-to-business provision of services (which covers the majority of services to unrelated parties), a rule that the destination of services is the jurisdiction in which the receiving business takes a
deductions. In addition, if the purchaser were subject to global DSFA, it would presumably no longer be required to allocate a deduction to a particular jurisdiction.

3. Business-to-Business Sales

Others have explained that destination sales-based formulary apportionment would be exposed to tax planning and tax base erosion because the destination of business-to-business sales would count as a customer destination. Ilan Benshalom, for example, argues that “[t]ax authorities cannot counter the ability of MNEs to incorporate subsidiaries in low-tax jurisdictions through which they may channel sales and purchasing operations.”

Benshalom gives the example of a semiconductor manufacturer which “rarely contracts with end users” and sells through its Irish subsidiary to the Irish subsidiaries of various computer manufacturers. Such sales would increase the sales factor in Ireland, a low-tax jurisdiction, without requiring a significant change in the way the involved firms conduct business.

Julie Roin explains that under sales-based formulary apportionment, firms could “substitute contractual controls for ownership simply to enjoy lower tax liability.” Roin outlines the strategy of selling products through an unrelated commissionaire in a structure like that adopted today to minimize subpart F income. If the commissionaire is located outside the U.S., then the sale of goods from the principal to a non-U.S. commissionaire rather than to a U.S. buyer will reduce the U.S. corporate tax under a U.S. DSFA system because the transaction will not count as a sale into the United States. And if the commissionaire that ultimately sells the goods is a firm subject to lower taxes, perhaps because it is not a corporation or is structured to have no profits for income tax purposes, the commissionaire will not pay a significant tax under global DSFA. Roin argues that the tax avoidance opportunity “may provide enough of a financial incentive to reverse prior decisions in favor of vertical

deduction . . . should establish the destination of the service.”

My thanks to Ilan Benshalom for discussion of this issue.

Ilan Benshalom, Taxing the Financial Income of MNEs, 28 VA. TAX REV. 619, 638 (2009).

Id. at 637.

Roin, supra note 1, at 231–32. If the manufacturer of a product sells the product through an unrelated commissionaire who is respected as independent from the principal, sales may not be attributed to the principal, and income from the sale may not be characterized as immediately taxable foreign base company income.
integration.”  Fleming, Peroni and Shay make a similar point.  

As these other commentators argue, the operation of sales-based formulary apportionment incents firms to locate some of their functions, such as their selling functions, outside the U.S. and separate their sales and purchasing operations from their vertically integrated structures. The strategies they describe are tax planning opportunities: MNCs could lower their corporate tax by manipulating the location and structure of their purchasing and selling operations.

But counting business-to-business sales as destination customer sales presents a capital investment location issue, as well as a tax planning opportunity. If the United States unilaterally adopted DSFA, lower U.S. corporate income tax would result if intermediate business purchasers were located offshore than if such intermediate firms were located in the United States. Increased sales to such non-U.S. intermediate purchasers would not produce increased corporate tax liability for the selling corporation. This is apparent from the consideration of a hypothetical under which one producing MNC sells to different, unrelated purchasing MNCs.

Assume unilaterally adopted DSFA and consider a hypothetical U.S. corporation that designs and manufactures semiconductors exclusively for sale to unrelated corporate producers of video game consoles. Assume annual sales of $100 million, annual pre-tax profit of $60 million and a U.S. corporate tax rate of 25%. If the semiconductor manufacturer sold exclusively to U.S. game console makers, it would pay a U.S. DSFA tax of $15 million. Yet if the semiconductor manufacturer sold exclusively into a non-U.S. country, it would pay no U.S. tax. Thus the U.S. corporate tax of the selling corporation would be lower if the purchasing game console corporations were located outside the U.S. Assuming that the selling semiconductor corporation shared the tax savings by offering non-U.S. game console corporations a lower price than the price offered to U.S. clients, a DSFA tax would present the game console corporations with an

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106 *Id.* at 232-33 and n.249 (referencing Coase’s theory of the firm).
108 See McLure, *supra* note 68, at 39 n.23 (“Sales factors based on destination do not count only retail sales. Rather, they include sales of intermediate goods. Thus, like cascade-type turnover taxes, even . . . corporate taxes related to a destination-based sales factor could have an important origin component.”). *See also* Harry Grubert & John Mutti, *Taxes, International Capital Flows and Trade: The International Implications of the Tax Reform Act of 1986*, 40 Nat’l Tax J. 315, 320-21 (1987) (estimating that 1986 Act changes that decreased the corporate tax burden on income resulting from sales of exports would reduce the cost of exports by 0.50 percent).
incentive to locate outside the U.S.\textsuperscript{109} Sharing the tax savings with the purchasing firm would be an example of consumer or buyer incidence of the DSFA tax, a possibility left open by the analysis above.\textsuperscript{110}

There is no strategic subsidiary incorporation or de-integration tax planning in this example. Instead, the semiconductor-producing MNC is able to accept a lower price when it sells to an unrelated non-U.S. game console maker, because the semiconductor firm’s corporate tax liability will be lower.\textsuperscript{111} The tax saving persists regardless of the customer who ultimately buys the game box, whose location only affects the corporate tax liability of the game console corporation, leaving the corporate tax savings of the semiconductor manufacturer unchanged.

Note as well that the incentives to move actual productive capacity outside the U.S. would be stronger if tax benefits were contingent on purchasing and selling agents’ engagement in real business activity. This would be so under a rule, for example, that attributed activities of a commissionaire to a principal if the commissionaire “does not substantially transform” the goods before sale.\textsuperscript{112} It would also be so if a rule that determined the destination of sales disregarded purchasing agents and instead considered, for example, the location where the semiconductors would be used in the game console manufacturing process.

The relative importance of business-to-business sales in cross-border trade would affect the extent to which business-to-business sales incentives would tend to push productive capacity out of the U.S. An analysis of the market share of business-to-business sales is beyond the scope of this paper, but a small sample of foreign trade statistics suggests it is significant. Survey data on U.S. exports from the Bureau of Economic Analysis show that of approximately $1.287 trillion in 2008 U.S. exports, about $388 billion, or 30\%, were industrial supplies (such as cotton, tobacco, coal and oil) unlikely to be destined directly for consumers. Capital goods, which

\textsuperscript{109} In this example, non-U.S. tax is assumed to be constant. This is consistent either with an assumption that a non-U.S. tax rate is zero or with an assumption that the non-U.S. separate accounting system does not give a different answer as a result of the U.S. adoption of DSFA.

\textsuperscript{110} See supra Part II.A.4.

\textsuperscript{111} The amount of the tax savings depends on various factors including the relationship between profits and sales for the taxed firm and the other income tax attributes of the firm. See supra Part II.

\textsuperscript{112} Avi-Yonah & Clausing, supra note 1, at 335; see also Reuven Avi-Yonah & Kimberly Clausing, More Open Issues Regarding the Consolidated Corporate Tax Base in the European Union, 62 Tax L. Rev. 119, 121–22 (2008) (noting that this “look-through rule” would counteract firms’ efforts to avoid taxation by selling through “strawmen companies”). Such a look-through rule also would raise jurisdictional issues, which might require a withholding tax solution. See Roin, supra note 1, at 235-40.
included computers as well as machinery, but which appear likely destined in material part for business use, made up $458 billion in exports; automotive vehicles and related products, including both commercial and consumer products, contributed $121 billion; and consumer goods labeled as such made up only $161 billion, or approximately 12.5%.113

To eliminate the business-to-business sales incentive problem, one might try to tax business-to-business sales based on final customer location under a DSFA system. This would be inconsistent with the approach taken by the U.S. states, which includes intermediate purchases made by other businesses from the taxed businesses in the sales factor.114 More importantly, it would either face very substantial administrative difficulties or compromise the effectiveness of the DSFA system.115

One might imagine a system that retained the full income tax base of the DSFA system and continued to apply it separately to each firm in the supply chain, but allocated each firm’s income based on ultimate customer destination. The semiconductor manufacturer in the example would allocate its corporate income based on the locations of the ultimate consumers of the video game consoles that incorporated its semiconductors.116 The system might try to trace the placement of a semiconductor chip through intervening manufacturers, distributors, and retailers to the ultimate consumer of the video game console containing the chip. But the related logistical exercise, considering complex supply chains, time lags, conflicting accounting and computer systems and demanding recordkeeping


114 See HELLERSTEIN & HELLERSTEIN, supra note 28, at ¶ 9.18[1][a][iii] & n.735 (citing Hercules Inc. v. Utah State Tax Comm’n, 877 P.2d 133 (Utah 1994), aff’d 845 P.2d 941 (Utah Ct. App. 1992)). In Hercules, the court held that Hercules, a manufacturer of rocket motor components of missiles ordered by Lockheed Corporation, had a sale located in Utah because the delivery of the motors occurred in Utah although the final assembly and delivery of the missiles by Lockheed to the U.S. government occurred in California or Washington. Hercules, 877 P.2d at 136–37; see also Stryker Corp. v. Div. of Taxation, 18 N.J. Tax 270, 288 (1999) (holding that accounting-entry inventory transfers to New Jersey subsidiary prior to on-sale to customers nationwide counted as New Jersey-factor revenues for purposes of corporate income tax apportionment).

115 Cf. Benshalom, supra note 103, at 637 (“Tax authorities have no ability to monitor these types of conduit [sales] transactions and to trace the true location of the chips.”).

116 Presumably using the price at which the semiconductor was sold to the relevant video game console manufacturer.
requirements, seems impossible.\textsuperscript{117} One might also avoid the business-to-business problem by imposing the tax just once, at the customer’s destination. But this would undermine the corporate income tax nature of the system, which seeks to tax each entity on its own profit. Moreover, implementing a sale-for-resale exemption like those present in U.S. retail sales tax systems, for example, would limit tax collection activity to retailers and undermine enforcement. It would also leave the system open to the planning strategy of using only firms subject to little or no taxes (such as corporations with paltry taxable income or non-corporate firms) as retailers.

\textbf{D. What Else Other Nations Might Do (Besides Adopting DSFA)}

A domino effect result depends in part on the assumption that the incentive to locate productive activity inside the U.S., because of a lower payroll and property tax burden there following unilateral DSFA adoption,\textsuperscript{118} would exceed the origin-based incentives to locate productive activity outside the U.S.\textsuperscript{119} A domino effect result also depends on the assumption that other nations’ response to the attraction of productive capacity to the U.S. following unilateral U.S. DSFA adoption would be the adoption of a DSFA system in other countries. But other responses are also possible, including World Trade Organization (WTO) export subsidy sanctions, treaty violation complaints, and outright corporate income tax repeal.

A WTO export subsidy argument would be based on the premise that DSFA is a direct tax (in contrast to indirect taxes such as value-added taxes) that produces a lower tax liability if goods are exported, because exported goods would not be considered U.S. sales for purposes of the DSFA formula.\textsuperscript{120} Other countries might also react to a movement of productive

\textsuperscript{117} Such an exercise would go well beyond efforts under U.S. state corporate income tax law to determine the correct location of a sale based on the location of the purchaser in the current transaction. See, e.g., HELLERSTEIN & HELLERSTEIN, supra note 28, at ¶ 9.18[1][a], [a][i] & nn. 694, 704 (describing cases in which sales were held to occur outside a state despite technical delivery of product in state) (citing Lone Star Steel Co. v. Dolan, 668 P.2d 916 (Colo. 1983); Dep’t of Revenue v. Parker Banana Co., 391 So. 2d 762 (Fla. Dist. Ct. App. 1980)).
\textsuperscript{118} See supra Part II.B.
\textsuperscript{119} See supra Part II.C.
\textsuperscript{120} See Charles E. McLure, Jr. & Walter Hellerstein, Does Sales-Only Apportionment Violate International Trade Rules?, 96 TAX NOTES 1513, 1516–17 (Sept. 9, 2002) (outlining WTO violation argument). But see Avi-Yonah & Clausing, supra note 1, at 340 (“It can be argued that the formula is not explicitly contingent on export performance, and that it serves only as a means for allocating the income tax base among jurisdictions . . . ”).
capacity to the U.S. by complaining that DSFA adoption violates the tax treaty provisions that prescribe arm’s length transfer pricing and/or expands taxing jurisdiction beyond the reach of existing permanent establishment clauses, although formulary apportionment arguably “satisfies [the] arm’s length condition” given the fact that a literal interpretation of “arm’s length” makes no sense in the context of an integrated business enterprise. A final response available to non-U.S. governments is the outright repeal of the corporate income tax. Even if the overall effect of unilateral U.S. DSFA adoption is to shift productive capacity to the U.S., a domino effect that prompts other countries to also adopt DSFA is not a foregone conclusion.

III. COMPARING GLOBAL DSFA TO THE EXISTING CORPORATE INCOME TAX

A. Comparative Exercise

What if global DSFA were achieved? Would it be better than the corporate income tax system we have now? In this Part III, I raise five points relevant to this comparative exercise.

First, I question the existing system baseline described by DSFA proponents, given the potential of alternative ways to address the central problem of shifting income to zero- or low-tax countries. Second, I name two economic productive activity location distortions that would continue to exist under global DSFA (assuming different tax rates): origin-based incentives and cross-border merger incentives. Third, I outline various administrative and compliance costs that would arise from the global coordination effort necessary to make global DSFA work. Fourth, I describe the limitations of a norm of international corporate taxation for the future evolution of the U.S. tax system. Fifth, I anticipate future work that will acknowledge the flexibility and other benefits of incremental transfer pricing reform — which should include the incorporation of some formulary elements — and consider the regulatory design necessary to

121 See, e.g., U.S. MODEL INCOME TAX CONVENTION, art. 9(1) (Nov. 15, 2006), available at http://www.ustreas.gov/press/releases/reports/hp16801.pdf (providing that if “conditions are made or imposed between the two [commonly controlled, managed, or owned] enterprises . . . that differ from those that would be made between independent enterprises,” then profit allocations shall be adjusted to correct the difference).
122 See infra note 152 (discussing possible tax treaty renegotiation).
123 See Avi-Yonah & Clausning, supra note 1, at 338–39.
124 Cf. Sullivan, supra note 13, at 1177 (reporting reduced dollar amounts of U.S. parent MNCs’ tax payments to non-U.S. governments).
accomplish such reform.

B. The Baseline Should Consider Other Reform Efforts

An effort to estimate the ease of tax planning and the difficulty of enforcement under the existing system aims at a moving target, as MNCs’ ability to plan around existing rules to minimize taxes could be growing more restricted. The OECD provides one possible reform avenue. It has, for example, discouraged preferential tax regimes in member countries and made efforts to lower the permanent establishment threshold. Data suggest that corporate tax revenues as a percentage of GDP have not declined in recent years in developed countries.

Also important are the efforts made by individual countries’ tax administrations. In the United States, for example, the government has stepped up litigation challenges to taxpayers’ transfer pricing positions, though with little success; and changed regulations to require the sharing of a larger pool of costs and to attribute more value to intellectual

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125 Cf. Martens-Weiner, supra note 2, at 101 (noting that a model that assumes that transfer pricing is more expensive is more likely to conclude that “formulary apportionment will increase tax competition relative to separate accounting”).

126 OECD materials explain that if a jurisdiction has zero or low taxation, one or more of “lack of transparency,” “lack of effective exchange of information,” or “ring-fencing” from the domestic economy may result in identification of harmful tax competition. OECD, The OECD’s Project on Harmful Tax Practices: 2006 Update on Progress Member Countries 3 n.4 (2006). For example, Ireland’s International Financial Services Centre and the U.S. Foreign Sales Corporation are reported as “[a]bolished” regimes. Id. at 5.


128 For example, the Ninth Circuit eventually reached the taxpayer-favorable result that the government could not require the sharing of stock compensation-related expenses under earlier cost sharing regulations that failed to explicitly require such expenses to be shared. See Xilinx, Inc. v. Commissioner, 598 F.3d 1191 (9th Cir. 2010), rev’d 567 F.3d 87 (9th Cir. 2009). In another case, the Tax Court favored the taxpayer’s view on the appropriate valuation of a buy-in payment. See Veritas Software Corp. v. Commissioner, 133 T.C. No. 14, 2009 U.S. Tax Ct. LEXIS 34 (2009).

129 See, e.g., Treas. Reg. § 1.482-7T(d) (2009) (defining “intangible development costs” (IDCs) to include deductions related to stock compensation); T.D. 9088, 2003-2 C.B. 841 (discussing the decision to require the inclusion of stock-based compensation in the cost base for cost-sharing agreements over the objections that the change conflicted with the arm’s
property originating with the parent corporation. The present administration has continued this trend by proposing to tax U.S. parent corporations on any excess returns from intangibles placed in a low-tax foreign jurisdiction and “clarify[ing]” the inclusion of goodwill, going concern value, and workforce in place in the definition of intangibles subject to commensurate-with-income return rules applicable to nonrecognition transactions. These and other reforms can take place under the umbrella of the arm’s length standard. The presence of formulary elements in various pieces of transfer pricing guidance demonstrates the potential flexibility of the arm’s length concept.

These rule changes are not guaranteed to work. For example, some of the U.S. efforts to date, such as the platform contribution buy-in rules, that do shift underlying valuation assumptions address the paradigm of a U.S. parent corporation that creates valuable intellectual property. Although tight anti-inversion rules make it difficult for established U.S. firms to move offshore, MNCs with parents originally incorporated offshore could presumably pay lower U.S. taxes than MNCs with U.S. parents under developing transfer pricing rules that attribute more value to parent length standard. One example in the temporary regulations also treats an item of general corporate overhead expenses as an IDC. See Treas. Reg. § 1.482-7T(d)(5) ex. 4 (2009) (concluding that where an executive officer “oversees a research facility and employees dedicated solely to the [intangible development agreement],” in addition to other duties, some of that portion of the officer’s salary attributable to corporate overhead functions constitutes an IDC).

See Treas. Reg. § 1.482-7T(c), (g) (2009) (defining “platform contribution transaction” (PCT) and setting forth methods of valuing a buy-in payment in a PCT); T.D. 9441, 74 Fed. Reg. 340, 342 (Jan. 5, 2009) (describing a broadened PCT concept); Joseph DiSciullo & Robert Goulder, Temporary Cost-Sharing Regs Uncorked on New Year’s Eve, 122 TAX NOTES 205 (Jan. 12, 2009) (noting that the final regulations “retain the controversial ‘investor model’” that attributes value to a broad swath of intellectual property originating at the parent corporation); see also I.R.S. Coordinated Issue Paper, Sec. 482 CSA Buy-In Adjustments, at Part III (Sept. 27, 2007), available at http://www.irs.gov/businesses/article/0,,id=174320,00.html (detailing taxpayer methods and positions to reduce the buy-in cost of non-U.S. IP, such as defining transferred intangibles or other rights too narrowly or defining foreign goodwill and going concern value, not subject to buy-in requirements, too broadly); Robert T. Cole, IRS Guidance on Cost-Sharing Buy-In Transactions, 119 TAX NOTES 1161 (June 16, 2008) (noting that the IRS intended to apply the theories in its coordinated issue paper prior to the finalization of the investor model regulations).

See Treas. Reg. § 1.482-7T(c), (g) (2009) (defining “platform contribution transaction” (PCT) and setting forth methods of valuing a buy-in payment in a PCT); T.D. 9441, 74 Fed. Reg. 340, 342 (Jan. 5, 2009) (describing a broadened PCT concept); Joseph DiSciullo & Robert Goulder, Temporary Cost-Sharing Regs Uncorked on New Year’s Eve, 122 TAX NOTES 205 (Jan. 12, 2009) (noting that the final regulations “retain the controversial ‘investor model’” that attributes value to a broad swath of intellectual property originating at the parent corporation); see also I.R.S. Coordinated Issue Paper, Sec. 482 CSA Buy-In Adjustments, at Part III (Sept. 27, 2007), available at http://www.irs.gov/businesses/article/0,,id=174320,00.html (detailing taxpayer methods and positions to reduce the buy-in cost of non-U.S. IP, such as defining transferred intangibles or other rights too narrowly or defining foreign goodwill and going concern value, not subject to buy-in requirements, too broadly); Robert T. Cole, IRS Guidance on Cost-Sharing Buy-In Transactions, 119 TAX NOTES 1161 (June 16, 2008) (noting that the IRS intended to apply the theories in its coordinated issue paper prior to the finalization of the investor model regulations).
corporations. Could the future default startup model for U.S.-based startups include a Cayman parent corporation rather than a Delaware parent corporation?

Yet the reforms may work. For example, I do not know of any empirics suggesting a significant trend of tax-motivated offshore incorporation of startup firms with predominantly U.S. ties. Anecdotal evidence of offshore incorporation generally relates to situations that involve substantial non-U.S. ownership, management, or a high level of U.S. tax sophistication in connection with an unusual set of facts. Moreover, the strategy of startup incorporation overseas would not work to the extent that the startup’s exit strategy involved a strategic acquisition by a U.S. corporation rather than a non-U.S. acquisition or an IPO. Congress could also try to craft a rule of corporate residence based on management and control.

Although transfer pricing has its well-known problems, transfer-pricing reform, has not yet been proven a useless exercise. Incremental adjustments

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134 See Fred Greguras, Blake Stafford & S.R. Gopalan, 2007 UPDATE TO STRUCTURING VENTURE CAPITAL AND OTHER INVESTMENTS IN INDIA (2007), http://www.fenwick.com/docstore/Publications/Corporate/2007_Update_Structuring_VC_in_India.pdf (“[A]nti-inversion rules have proven to be very frustrating for a number of our clients seeking to pursue IPOs outside the U.S. Therefore, entrepreneurs must carefully consider whether an offshore structure should be created at the outset.”). Securities regulation concerns and related costs also motivate the trend of firms creating offshore structures at inception. See, e.g., Scott Duke Harris, Milpitas Company Offshores Its IPO, SAN JOSE MERCURY NEWS, May 13, 2009 (reporting initial public offering of Array Networks on the Taiwan stock exchange).

135 Although statutory changes have made inversions too expensive to consider in many situations, see I.R.C. § 7874, corporations may look for opportunities to move offshore in connection with a reorganization, acquisition, or investment. See, e.g., Dan Ackman, Accenture Tax Dodging the Bullet, FORBES.COM, June 10, 2004, http://www.forbes.com/2004/06/10/cx_da_0610topnews.html (describing the consulting firm’s decision to incorporate in Bermuda when it separated from the Arthur Andersen accounting business).


137 For example, Senator Carl Levin has proposed amending the definition of corporate residence for U.S. tax purposes from place of incorporation to place of management and control. See Stop Tax Haven Abuse Act, S. 506, 111th Cong. § 103 (2009) (“[T]he management and control of a corporation shall be treated as occurring primarily within the United States if substantially all of the executive officers and senior management of the corporation who exercise day-to-day responsibility for making decisions involving strategic, financial, and operational policies of the corporation are located primarily within the United States . . . .”).
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to U.S. corporate tax rules, such as the transfer pricing rules, and cooperative multinational corporate income tax reforms, such as global DSFA, share the challenge of increasing U.S. tax jurisdiction and revenue without driving corporate capital investment away from the U.S. Narrow and broad approaches both involve uncertainty about whether both goals will be achieved. But incremental reforms are less risky than global changes, because global changes are harder to implement and correct and because they may allow insufficient latitude to tailor solutions to taxpayer circumstances and transactional facts. Part III.F returns to this point.

C. Economic Incentives: Origin-Based Incentives and Cross-Border Mergers

Part II above discussed the economic incentives likely to follow from unilateral DSFA adoption by the United States. The discussion highlighted two opposing productive capacity influences: the tendency of a low corporate tax rate on property and payroll to attract productive capacity to the United States, and the tendency of origin-based incentives such as business-to-business sales to push productive capacity out of the United States. As argued in Part II, these two incentives pull in opposite directions and their strength is unknown. Thus, the answer to the question of whether unilateral DSFA adoption would spark a productive capacity shift to the U.S. and result in domino effect adoption elsewhere is also unknown.

The economic incentive effects of global DSFA adoption would differ. They would not include an incentive to shift productive capacity based on a difference in property and payroll tax burdens, but they would include origin-based and cross-border merger incentives.

The incentive for productive capacity to move to the United States after it unilaterally adopted a DSFA system, as described above, relies on different property factor weights to produce a predicted result of migration of capital investment to states with a lower corporate property tax burden. In a world where all jurisdictions have adopted DSFA, all jurisdictions will give the property factor a zero weight. The move from a separate accounting to a DSFA model could cause shifts in productive capacity even if done simultaneously under a multijurisdictional agreement. But after the transition, no productive capacity attraction incentive could result from different property factor weights, because they would all be the same —

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138 See supra Part II.B.
139 See Edmiston, supra note 58, at 250-54 (describing model results showing that some regions would attract greater shares of capital if all U.S. states adopted double-weighted sales simultaneously).
zero. 140

But origin-based incentives, including those resulting from imperfect proxies for services and intellectual property and those resulting from business-to-business sales, were also described above. 141 The business-to-business sale incentive not only might encourage tax planning to shift purchasing and sale functions, but also could encourage the placement of capital investment associated with intermediate firms in a production chain in a low-tax jurisdiction. This could occur, for example, if anti-abuse rules required actual economic substance to accompany a purchase or sale function in order for it to be respected as a sale destination. Or it could occur if supplier firms offered lower prices to unrelated intermediate firms located in lower-tax jurisdictions. These origin-based incentives apply in the global DSFA case just as in the case of DSFA unilaterally adopted by the United States, as long as tax rates are not uniform.

The adoption of global DSFA would also present a special incentive for firms subject to formulary apportionment to merge in order to minimize their tax obligations. This cross-border merger distortion, described by Gordon and Wilson, applies even if all firms have adopted DSFA, so long as the tax rates vary among jurisdictions. The incentive encourages profitable firms with large factor weights in high-tax jurisdictions to seek out and merge with unprofitable firms with large factor weights in low-tax jurisdictions. 142 Such a merger strategy permits the profitable firm to lower its taxes by attributing a chunk of its profits to the low-tax jurisdiction. On the other hand, formulary apportionment discourages the merger of a profitable firm in a low-tax jurisdiction with an unprofitable firm in a high-tax jurisdiction, due to the tax cost resulting from the shift in profit attribution away from the low-tax jurisdiction to the high-tax jurisdiction. 143

This incentive is different from the tax advantage from loss consolidation, which may arise in a merger under separate accounting as well as formulary apportionment. The unprofitable firm need not have losses in order to face a skewed formulary apportionment result as described above. It need only have low profits relative to its sales and

140 See Roger H. Gordon, A Critical Look at Formula Apportionment, in 2 Final Report of the Minnesota Tax Study Commission 209, 217 (1986) (Robert D. Ebel & Therese J. McGuire, eds.) (noting that if a state adopted a mandatory apportionment formula based entirely on sales, “cross hauling would have no effect on [the state’s] taxes” if both firms had nexus in the state).

141 See supra Part II.C.3.

142 See Gordon & Wilson, supra note 89, at 1361–62.

143 See Hines, supra note 5, at 109 (giving an example of the merger incentive problem).
relative to the profits of the other firm.\footnote{One proposal to address this issue would adjust sales by industry average profit-to-sales ratios. See Seto, supra note 1, at 8–9.}

We do not know the likely magnitude of the productive activity location incentives produced by origin-based incentives, like business-to-business sales, and by cross-border merger distortions under global DSFA. But relative to less ambitious corporate tax reform measures, especially those adopted domestically, global DSFA leaves less room to amend the law, or change the international consensus, if the results are undesirable. Incremental measures do not present the same degree of combined uncertainty and inflexibility.

\textbf{D. Global DSFA Has Significant Administration and Compliance Costs}

\textit{1. Building an International Consensus}

The adoption of formulary apportionment by less than all nations — or the adoption of different tax bases or formulas by different nations — can produce double taxation or non-taxation, as well as severe complexity.\footnote{“Simultaneous operation of [formulary apportionment and separate accounting] systems would encounter transfer pricing problems and seriously compromise any gains in simplification.” McLure, supra note 27 at 588.} This possibility is a significant “obstacle to unilateral adoption of a formulary system” and accordingly it is thought that international agreement would be the best way to adopt a global DSFA system.\footnote{Avi-Yonah, Clausing & Durst, supra note 1, at 519–20.} Unilateral adoption of a DSFA system by the United States is presented as a second-best move that would hopefully prod other countries to follow suit.\footnote{See id. at 519.}

Unilateral U.S. adoption might or might not eventually persuade other countries to join, as discussed above.\footnote{See supra Part II (considering whether a domino effect would occur.)} But unless and until other countries do follow a U.S. lead, unilateral adoption would only simplify the U.S. rules — not all the non-U.S. international rules that MNCs wrestle with. Other nations’ transfer pricing, source, jurisdiction and anti-deferral rules would continue to consume significant amounts of time on the part of MNCs and their advisors.\footnote{See supra text accompanying note 36 (explaining that formulary apportionment’s potential to eliminate a wide swath of international tax rules depends on global adoption).} Moreover, MNCs might find that the enforcement and interpretation of transfer pricing rules progressed less efficiently in the absence of an interested U.S. government actively...
participating in competent authority procedures.\textsuperscript{150}

In addition, even if DSFA were adopted globally, it would consume significant energy and political capital. “Vast amounts of precedent and experience would be jettisoned.”\textsuperscript{151} Existing tax and trade\textsuperscript{152} treaties could require renegotiation.\textsuperscript{153} Nations have different substantive interests.\textsuperscript{154} International tax norms have historically developed at a slow pace,\textsuperscript{155} and stalled EU efforts to adopt a common consolidated corporate

\textsuperscript{150} Thanks to Mark Wolfson for raising this point.

\textsuperscript{151} McLure, supra note 27, at 125.

\textsuperscript{152} Compare Avi-Yonah, Clausing & Durst, supra note 1, at 523–24 (arguing that DSFA could be interpreted, with the help of competent authority, to satisfy the treaty arm’s length allocation standard), with William J. Wilkins & Kenneth W. Gideon, Memorandum to Congress: You Wouldn’t Like Worldwide Formulary Apportionment, 65 Tax Notes 1259, 1265 (Dec. 5, 1994) (stating that formulary apportionment would require renegotiation of existing tax treaties). If the destination sales factor were to serve as the basis for taxing jurisdiction, permanent establishment clauses would presumably also require renegotiation. See Roin, supra note 1, at 229–30 (noting that formulary apportionment could expand jurisdiction beyond current permanent establishment scope).

\textsuperscript{153} See supra note 120 and accompanying text (referencing debate over potential of DSFA to trigger a WTO complaint).

\textsuperscript{154} Even if existing treaties did not have to be changed, administration of a global system would presumably require some kind of cooperative multilateral agreement. See, e.g., Wilkins & Gideon, supra note 152, at 1265 (“[Formulary apportionment] would require negotiation of a multilateral arrangement based on a cross between GATT and the Multistate Tax Commission, perhaps even with authority for dispute resolution and sanctions . . . ”).

\textsuperscript{155} See Durst, supra note 29, at 1048 (foreseeing a likely political struggle with low-tax haven countries which would no longer receive tax revenue based, for example, on intangible ownership under formulary apportionment); Mintz & Weiner, supra note 3, at 92 (explaining that some EU states do not think a sales factor should be included in an EU CCCTB formula); Roin, supra note 1, at 228–29 (noting that some countries will be winners and some losers under DSFA, depending on factors including profit margins and whether a country is a net importer or exporter).

\textsuperscript{156} The pace at which global taxation norms have changed depends in part upon their complexity and also on the mobility of the relevant tax base. Compare Reuven S. Avi-Yonah, Globalization, Tax Competition, and the Fiscal Crisis of the Welfare State, 113 Harv. L. Rev. 1573, 1579–82 (2000) (describing relatively rapid reductions in nations’ statutory portfolio investment withholding rates in the nine years after 1984, when the United States passed the portfolio interest exemption), with Graetz & O’Hear, supra note 4, at 1036–38, 1102–03 (describing the continued influence of T.S. Adams’s 1920s respect for source-based taxation despite his subsequently stated priority for residence-based taxation). See generally Brian D. Lepard, Is the United States Obligated to Drive on the Right? A Multidisciplinary Inquiry into the Normative Authority of Contemporary International Law Using the Arm’s Length Standard as a Case Study, 10 Duke J. Comp. & Int’l L. 43, 60–76 (1999) (describing U.S. efforts to establish the arm’s length standard as an international norm, particularly in the 1960s and 1970s).
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tax base demonstrate that this sort of negotiation is not easy.\textsuperscript{157}

2. Administrative Challenges, Tax Avoidance and Evasion

Because a global DSFA system would require multilateral coordination and agreement to avoid double taxation and non-taxation, it would demand a commitment of significant administrative resources on the part of participating nations. Whatever apparatus were built to process questions relating to the application of DSFA would face numerous tricky questions, including the scope of income subject to apportionment, the definition of sales destination, and the tax base. Experience with formulary apportionment in the U.S. states and Canada and with VAT administration in many countries has demonstrated the difficulty of resolving similar line-drawing questions.\textsuperscript{158}

The scope of income subject to apportionment follows from the definition of a unitary business and thus is closely related to the jurisdictional tax issue Roin describes.\textsuperscript{159} Global DSFA would not face the constitutional restraints that limit the unitary business definition in U.S. states,\textsuperscript{160} and most commentators recommend a broad unitary business definition following from ownership and/or control rather than business integration.\textsuperscript{161} But many difficult questions still remain. Would some

\textsuperscript{157} See, e.g., Mintz & Weiner, \textit{supra} note 3, at 88–91 (relating years-long EU effort to reach consensus on a common corporate tax base, allocation formula, and administrative framework). Separately, one recent episode shows that a charismatic leader is sometimes necessary for the quick resolution of a matter as small as the wording of a resolution describing the existing body of anti-tax-competition work of an international organization. See Helene Cooper, \textit{On the World Stage, Obama Issues an Overture}, N.Y. TIMES, Apr. 3, 2009, at A1 (reporting U.S. president Barack Obama’s brokering of a dispute between French president Nicholas Sarkozy and Chinese premier Wu Jintao over the wording of a resolution describing OECD anti-tax haven efforts).

\textsuperscript{158} See, e.g., HELLERSTEIN \& HELLERSTEIN, \textit{supra} note 28, at ¶ 8.11 (outlining numerous state decisions relating to the scope of apportionable income for multinational corporations).

\textsuperscript{159} See Roin, \textit{supra} note 1, at 230 (“Unitary combination [along with similar rules] ... allows a taxing jurisdiction to effectively exert some taxing jurisdiction over the income of what otherwise would be nonjurisdictional entities ...”).

\textsuperscript{160} See \textit{infra} note 28 (referring to U.S. constitutional restraints on unitary business definition).

\textsuperscript{161} See Avi-Yonah, Clausing & Durst, \textit{supra} note 1, at 548–50 (proposing unitary business definition involving the determination of a business activity engaged in by a group of related parties under common ownership or control); see also \textit{European Commission Common Consolidated Corporate Tax Base Working Group, CCCTB: Possible Elements of a Technical Outline} 6–7, 21–24 (Nov. 2007) [hereinafter CCCTB Possible Technical Outline] (suggesting 50% voting ownership threshold to opt in or out of
corporate income be treated as passive income not subject to apportionment? When would commissionaire and other agents be treated as part of the corporate group? How would income be apportioned if earned by a corporation whose ownership did not meet the threshold for inclusion in the unitary business? Although the Constitutional constraints contribute to a unitary business definition for the U.S. states that requires perhaps more facts-and-circumstances analysis than the proposed global DSFA definition based on ownership would, the voluminous case law on this issue testifies to its complexity. \(^\text{162}\)

The destination of sales presents another difficult question. Despite its asserted inelasticity, sales has been “viewed as a highly mobile factor,”\(^\text{163}\) not because the residence of the customer is elastic, but because it is relatively easy to manipulate the proxies, such as the place of delivery, that the tax system must use to determine the destination of sales.\(^\text{164}\) In addition, because a DSFA system proposes apportionment based on a single factor, there would be a great deal of pressure on that factor. Some commentators advocate a multi-factor formula to attempt to diffuse the tax burden and MNCs’ incentive to tax plan.\(^\text{165}\)

With respect to goods, for example, a rule that treats the place of delivery as the sales destination may prompt taxpayers “to arrange for products destined for consumers in high-tax jurisdictions to be sold and shipped to unrelated intermediaries located in low-tax jurisdictions.”\(^\text{166}\) In addition, if administrative rules are not identical, the place of shipment may be changed to take advantage of more or less favorable default rules; one study shows empirical evidence of corporations structuring their operations to avoid shipping from “throwback” U.S. states, for example.\(^\text{167}\) With CCCTB and that within an opting-in group, mandatory inclusion for affiliates meeting a 75% voting ownership and mandatory exclusion for affiliates under a 50% voting ownership threshold); Pomp, supra note 28 at 808–09 (advocating a 50% relatedness test).

\(^\text{162}\) See Hellerstein & Hellerstein, supra note 28, at ¶ 8.09 (discussing the complexities of and facts-and-circumstances analysis required by state law definitions of “unitary business.”).

\(^\text{163}\) Martens-Weiner, supra note 2, at 81.

\(^\text{164}\) See Roin, supra note 1, at 207 (“[T]he delivery rule is far from foolproof because it does not in fact require taxpayers to trace goods to their ultimate destination.”); see also Millar, supra note 96, at 179, 182–84 (noting that VATs are predictive taxes, with rules that guess the location of a good’s consumption at the time of the good’s supply, and describing various “proxies” used to make the prediction).

\(^\text{165}\) See, e.g., Martens-Weiner, supra note 2, at 101 (noting “the general view that a multiple-factor formula has advantages over a single factor formula”).

\(^\text{166}\) Roin, supra note 1, at 207.

respect to services and intellectual property revenues, the problems may be even more significant, because the destination can be more slippery, as discussed above.168

Defining the tax base would also require wading into the question of book and tax conformity and the relationship between international and U.S. or other single country accounting systems. It may not be appropriate to equate tax and book income, although their relationship should arguably be closer than it is today.169 The European experience with CCCTB proposals demonstrates that this problem is a quagmire.170

There is also an even more fundamental enforcement problem: the necessity yet impracticality of a gross-basis withholding system to enforce collection of a DSFA tax from foreign corporations.171 Even if one sets aside concerns about whether tax treaty provisions such as permanent establishment provisions would permit the existence of a factor (i.e. sales into a taxing jurisdiction) to support taxing jurisdiction as a matter of law, a significant practical problem remains for the collection of a DSFA tax from a foreign firm: the taxing jurisdiction has no access to assets or other leverage and little way to check information about the foreign firm.172

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ECON. 385, 387 (1998) (reporting empirical results identifying “sales factor management” such as changing the shipping location away from “throwback” states as a method of corporate tax reduction). A “throwback” U.S. state rule attributes a sale to a state over which the taxing state lacks jurisdiction to the state of shipment instead; a “throwout” state omits such a sale from the numerator and denominator of the apportionment formula. See HELLERSTEIN & HELLERSTEIN, supra note 28, at ¶ 9.18[1][b] (describing throwback rule); 9.18[1][c] (describing throwout rule); see also Sanjay Gupta & Lillian Mills, Corporate Multistate Tax Planning: Benefits of Multiple Jurisdictions, 33 J. Acct'g & ECON. 117 (2002) (reporting empirical finding that firms with high sales intensity have lower effective tax rates, consistent with the hypothesis that such firms locate sales, at least for tax purposes, in low-tax states).

168 See infra Part II.C.2.

169 See Daniel Shaviro, The Optimal Relationship Between Taxable Income and Financial Accounting Income: Analysis and a Proposal, 97 GEO. L.J. 423, 428–29 (2009) (noting the different purposes of calculating tax and accounting income and the incentives of managers and politicians to seek low taxable income and high accounting income and proposing a compromise under which, in general, income calculated under tax rules would be adjusted by a percentage, for example 50% of the difference between such calculation and calculated financial accounting income).

170 See CCCTB POSSIBLE TECHNICAL OUTLINE, supra note 161, at 8–21 (describing various possible common tax base details and member states’ numerous comments).

171 Another persistent administrative problem for income, sales and VAT systems — the failure of retailers, particularly small businesses, to report a large portion of retail sales — would presumably not be a more significant issue in a DSFA system.

172 See Roin, supra note 1, at 230, 237 (noting problems of lack of leverage and ineffective audit).
Existing U.S. withholding tax mechanisms like those now applicable to interest, dividends, rents and royalties paid to non-U.S. firms would not help, and the jurisdictional problem of collecting a DSFA tax from foreign firms would demand an alternative gross-basis withholding tax system of some kind. If the system were global, analogous non-U.S. gross basis withholding systems would likely apply to U.S. firms, and time lags and red tape would stand between withholding and refund.

The details of a broad global formulary apportionment system for jurisdiction to tax business income, and the necessity of addressing them cooperatively with other nations, are important in part because of the technical difficulty of the solutions. Others have ably explained these challenges and some of them are outlined above in this Part III.D. But the requirement of sweeping global cooperation also has other drawbacks. It would require from each participating nation not only a significant commitment of international resources to the cooperative technical project but also some willingness to accept the results of the project — whose outcome is uncertain — even if those results are not as expected and are undesirable for a particular nation, such as from a tax revenue or capital investment perspective. This is in part because the different nations might require each other to commit to live by the results as a condition to entering into the project and in part because tax administrators, having committed significant time and resources to the global project, will likely be reluctant to walk away.

E. Global DSFA Would Limit the Future Evolution of the U.S. Corporate Tax

Achieving international consensus on DSFA, in addition to consuming energy and negotiating capital, presents the potential disadvantage of removing the discussion of the right tax system role of the firm from national-level debate. The exercise of justifying global formulary

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173 See Wilkins & Gideon, supra note 152, at 1262 (noting the absence of reliable withholding collection methods due to the necessity of first calculating income and then applying the formula and then paying the tax).

174 See Roin, supra note 1, at 237 (envisioning a preliminary gross basis withholding tax that would require adjustment at the end of a tax period after a non-U.S. firm filed a U.S. tax return).

175 Cf. Fleming, Peroni & Shay, supra note 107, at 131 (“Such a [formulary apportionment negotiation] process . . . likely would take a decade or more and success would be uncertain at best.”).

apportionment of corporate income would necessarily include the accompanying efforts of defining a uniform corporate income tax base and further entrenching the corporate income tax as an international norm.177 This means that global DSFA adoption would sacrifice a measure of national sovereignty over proper corporate tax design.178 And the uncertainty surrounding the correct design of a firm-level tax system in the first place might mean that sacrificing national sovereignty in this area would be a mistake.

A multilateral agreement on even some of the details of global formulary apportionment could prevent unilateral changes to the underlying tax base, for example to close loopholes or pursue fiscal stimulus goals. DSFA would also limit choices for broader corporate income tax reform, as it would require corporations to continue paying tax on the tax base described by the DSFA program.179 If international coordination worked, national legislatures might only retain the ability to change the tax rate and implement integration solutions that reduced tax on dividend income.

Certainty about the merits of a tax policy may be an important factor for nations to consider when weighing the benefits and detriments of international action. Consider international cooperation measures involving

178 See Ring, supra note 176, at 225 (arguing that “a loss of tax sovereignty can undermine both significant functional roles played by a nation-state (revenue and fiscal policy) and important normative governance values (democratic accountability and legitimacy),” and acknowledging that sovereignty rhetoric may be misleading). See also Arthur J. Cockfield, Tax Integration Under NAFTA: Resolving the Conflict Between Economic and Sovereignty Interests, 34 STAN. J. INT’L. L. 39, 68–69 (1998) (recommending a gradual approach to formulary apportionment or other forms of harmonization in part because nations’ concerns over loss of sovereignty will hamstring any attempt to rush things). But see Allison Christians, Taxation, Sovereignty and Social Contract, 18 MINN. J. INT’L. L. 99, 101–02 (2009) (raising the possibility that nations have a sovereign duty to each other under a “global social contract”); Michael McIntyre, The Design of Tax Rules for the North American Free Trade Alliance, 49 TAX L. REV. 769, 793 (1994) (raising the possibility that formulary apportionment would protect the U.S. corporate tax base and therefore preserve U.S. sovereignty in some respects).
withholding tax and information reporting incentives, which further the coherent goal of residence-based taxation of individuals; or EU indirect tax harmonization efforts, which support the agreed goal of taxing consumption. In both cases, the need for cooperation is accompanied by some degree of certainty about the merits of the tax policy goal. Arguably, no such certainty exists in the case of DSFA, because there is significant controversy over who bears the underlying corporate income tax and whether the tax as currently structured makes sense.

A corporate income tax reform advocate, or an advocate of implementing flexible tax or fiscal policy through the corporate income tax, might well disapprove of an international agreement that made the corporate income tax more entrenched and uniform. But a corporate income

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180 See, e.g. OECD, TOWARDS GLOBAL TAX CO-OPERATION: PROGRESS IN IDENTIFYING AND ELIMINATING HARMFUL TAX PRACTICES (June 2000) (listing tax havens that had no or nominal taxation and insufficient information exchange and/or transparency); Council Directive 2003/48/EC, On Taxation of Savings Income in the Form of Interest Payments 2003 O.J. (L.157/38) (EU savings directive). Cf. Susan Cleary Morse, Qualified Intermediary or Bust?, 124 Tax Notes 471 (Aug. 3, 2009) (arguing that the Service and Treasury should have and exercise discretion to pursue various cooperation strategies to achieve automatic cross-border information sharing).

181 See Avi-Yonah, supra note 18, at 23 (explaining principle of residence-based individual taxation).


183 See Ebrill et al., supra note 66, at 178 (noting the advantages of a harmonized VAT for “ensuring undistorted trade between distinct countries”).

184 See supra note 83 (mentioning corporate income tax incidence literature).

185 The classical corporate income tax produces biases in favor of noncorporate forms rather than corporate forms, debt rather than equity, and earnings retention rather than distribution, which lead many commentators to roundly criticize it and consider various integration solutions to reduce or eliminate these biases but maintain corporate-level income tax collection as a backstop to personal income tax collection. See, e.g. DEPT OF THE TREASURY, INTEGRATION OF THE INDIVIDUAL AND CORPORATE TAX SYSTEMS, 3-12, 15 (1992) (outlining distortions caused by the corporate income tax and considering integration prototypes including dividend exclusion, shareholder allocation and a Comprehensive Business Income Tax). However, the lack of clarity about its incidence may make the corporate income tax relatively easy to enact and retain from a political perspective. See Edward J. McCaffery, Cognitive Theory and Tax, 41 UCLA L. Rev. 1861, 1883–86 (1994) (noting public support for corporate income tax due to its “hidden” impact). Agency costs, see Jennifer Arlen & Deborah M. Weiss, A Political Theory of Corporate Taxation, 105 Yale L. J. 325, 368-699 (1995) and a heterogeneity of interests among interested parties that produces varying reactions to different reform proposals, see Michael Doran, Managers, Shareholders, and the Corporate Double Tax, 95 Va. L. Rev. 517, 594-95 (2009) may also impede reform.
tax supporter might consider the entrenchment of an international norm of corporate income taxation under global DSFA as an advantage rather than a disadvantage. This invites consideration of the cost of sacrificing a measure of control over corporate income tax policy and a judgment as to whether the continued existence and further entrenchment of the corporate income tax would be desirable, or acceptable, or at least inevitable.

**F. The Alternative: Incremental Reform**

As this Article’s exploration of worldwide DSFA has shown, a global solution to business income apportionment has drawbacks. There is uncertainty about whether the adopted solution will produce a simpler income allocation system, less vulnerable to tax planning strategies than the current system and less able to influence the global allocation of capital investment. And a global solution requires a substantial additional investment of international political capital and a long-term national commitment to the resulting global solution. It is more difficult to achieve and more difficult to change.

In future work, I plan to explore the idea that incremental reform is a better approach for reforming the international division of jurisdiction to tax business income — though broad global cooperation could, I believe, play a central role in other areas, such as the information and enforcement efforts relating to residence-based individual income tax policy. The greater flexibility of incrementalism, particularly incremental unilateral reform, is a key advantage for international business tax reform. In addition, a well-crafted institutional framework and substantive and procedural rule structure can help make successful incremental reform possible, for example by providing tax administrators with default rules and appropriate authority to resolve transfer pricing problems.

Incremental solutions may include formulary apportionment elements and elements of international cooperation. For example, U.S. transfer pricing reform could expand the arm’s length concept to include provisions that, like the profit split, global dealing and stock option cost sharing rules, go beyond a literal attempt to describe the way in which unrelated firms do business. What if the U.S., as Ilan Benshalom has suggested, began to base tax ownership of research and development intangibles based on the actual location of research and development costs, rather than permitting cost sharing? Could that not be treated as a reinterpretation within the

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186 See Benshalom, supra note 15, at 682 (outlining sourcing method for R&D intangibles). More generally, Richard Vann persuasively argues that a plan for fixing transfer pricing can remain anchored to its source-based approach by attributing the residual profit on a transactional basis to the operating locations of the firm. See Richard J. Vann, *Taxing*
boundaries of the arm’s length principle?\(^{187}\) Certainly it would prompt inter-nation discussion, at the least at the competent authority level, about implications for the allocation of income to other nations. But it would not require the same level of international commitment from the United States as a sweeping global formulary apportionment plan applicable to all corporate income. In the case of such incremental unilateral measures, the U.S. — and other countries — would have more freedom to evaluate the tax revenue, capital investment and other results of the changed rule, and to make modifications as appropriate.

It is not the formulary label or the necessity of inter-nation discussion that makes a proposal for global formulary apportionment for business income problematic. It is rather the breadth of the project, despite the significant uncertainty and inflexibility inherent in such a global effort, that presents a concern. Incremental changes may provide better experiments. They are achievable, flexible, measurable and modifiable relative to a broad global strategy.

**CONCLUSION**

This Article has examined the idea of global destination sales-based formulary apportionment. It has questioned whether unilateral U.S. adoption of a DSFA tax would prompt other countries to follow suit, pointing to the contrary factors of productive capacity shift to the adopting jurisdiction and origin-based business-to-business sales incentives and noting other nation’s non-DSFA response options. It has also explored several factors that should be considered in an analysis of whether global DSFA would be better than the existing separate accounting corporate tax system. These include the potential of other, more incremental reform efforts to change the current system; the continued economic dislocation costs of origin-based and cross-border merger incentives; the costs of global negotiation, compliance and administration; and the limitations of a norm of

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\(^{187}\) Although there is a strong OECD-led consensus around the arm’s length label, it is not an inflexible principle. The U.S. government has apparently agreed, at least in some circumstances, to stick to the name. See, e.g., Reuven Avi-Yonah, *Xilinx Revisited*, Tax Notes, Mar. 29, 2010, at 1621 (“[T]he [U.S.] government was unwilling, presumably because of pressure from the OECD, to defend the position taken by the original *Xilinx* panel decision that the arm’s length standard does not apply to cost sharing.”). The U.S. commitment to the narrow literal interpretation of the concept should not be as strong.
international corporate taxation for the future evolution of the U.S. corporate income tax. As I plan to explore in future work, the uncertainty and inflexibility of broad global cooperation efforts suggests that incremental measures — which could include formulary elements — would provide a better approach to reforming the international division of jurisdiction to tax business income.
APPENDIX 1

Table I is intended to clarify firms’ tendency to experience a DSFA tax as more like a sales tax if they have a low level of sales into a taxing jurisdiction and fixed profits. Table II shows the equivalence of DSFA to both a sales tax and an income tax if a firm’s profits equal a gross margin percentage of sales. Table III shows that a firm will experience a higher DSFA tax when it makes marginal sales above a fixed cost level into a high-sale state relative to a low-sale state.

Consider a multinational firm that sells 100 units as a base case. The Table I rows show four alternative scenarios, from the lowest-sale-state base case alternative of selling 1 out of 100 units into the taxing jurisdiction to the highest-sale-state base case alternative of selling 80 units out of 100 into the taxing jurisdiction. The columns show two alternative scenarios: an additional sale of 1 unit into each of the four taxing jurisdictions and an additional sale of 10 units. It is assumed that each unit sells for $30, that the tax rate is 25%, and that profit is fixed at $2000. The impact of a DSFA formulary apportionment approach is considered separately for each taxing jurisdiction.

**TABLE I. DSFA TAX FOR VARYING BASE CASE SALE PROPORTIONS WHERE PROFIT IS FIXED**

<table>
<thead>
<tr>
<th>Base Case Units Sold Out of 100</th>
<th>Base Case Tax</th>
<th>Tax on Additional Sale of 1 Unit</th>
<th>Effective Tax Rate Per Addtl $ Sold (1 Unit)</th>
<th>Tax on Additional Sale of 10 Units</th>
<th>Effective Tax Rate Per $ Sold (10 Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$5</td>
<td>$4.90</td>
<td>16.3%</td>
<td>$45.00</td>
<td>15.0%</td>
</tr>
<tr>
<td>10</td>
<td>$50</td>
<td>$4.46</td>
<td>14.9%</td>
<td>$40.91</td>
<td>13.6%</td>
</tr>
<tr>
<td>50</td>
<td>$250</td>
<td>$2.48</td>
<td>8.3%</td>
<td>$22.73</td>
<td>7.6%</td>
</tr>
<tr>
<td>80</td>
<td>$400</td>
<td>$0.99</td>
<td>3.3%</td>
<td>$9.09</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

These Table I results show that additional sales into low sale states are taxed at a higher rate than sales into high sale states, assuming fixed profit. Income tax profit drives the tax calculation to a greater extent in high sale states.

Relaxing Table I’s fixed profit assumption yields different results. As Table II below shows, if pretax income equals a gross margin percentage of sales, a DSFA system would impose the same tax rate on the price of each additional unit sold, regardless of the proportion of sales into the taxing jurisdiction. Under this assumption, a DSFA tax would be equally well described as an income tax and a sales tax.

As in Table II, the Table II rows show four alternative scenarios, from
the lowest-sale-state alternative of selling 1 out of 100 units into the taxing jurisdiction to the highest-sale-state alternative of selling 80 units out of 100 into the taxing jurisdiction. The columns show two alternative scenarios, an additional sale of 1 unit into each of the four taxing jurisdictions and an additional sale of 10 units. In the Table II calculations, it is assumed that unit price equals $30 and that the profit margin equals 66.67%.

**TABLE II. DSFA TAX FOR VARYING BASE CASE SALE PROPORTIONS WHERE PROFIT EQUALS GROSS MARGIN OF SALES**

<table>
<thead>
<tr>
<th>Base Case Units Sold Out of 100</th>
<th>Base Case Tax</th>
<th>Tax on Additional Sale of 1 Unit</th>
<th>Effective Tax Rate Per Addtl $ Sold (1 Unit)</th>
<th>Tax on Additional Sale of 10 Units</th>
<th>Effective Tax Rate Per Addtl $ Sold (10 Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$5</td>
<td>$5</td>
<td>16.7%</td>
<td>$50</td>
<td>16.7%</td>
</tr>
<tr>
<td>10</td>
<td>$50</td>
<td>$5</td>
<td>16.7%</td>
<td>$50</td>
<td>16.7%</td>
</tr>
<tr>
<td>50</td>
<td>$250</td>
<td>$5</td>
<td>16.7%</td>
<td>$50</td>
<td>16.7%</td>
</tr>
<tr>
<td>80</td>
<td>$400</td>
<td>$5</td>
<td>16.7%</td>
<td>$50</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

If taxable profit equals a gross percentage of sales less a fixed cost, yet another pattern is observed. Table III illustrates this pattern. As in Tables I and II, the Table III rows show four alternative scenarios, from the lowest-sale-state alternative of selling 1 out of 100 units into the taxing jurisdiction to the highest-sale-state alternative of selling 80 units out of 100 into the taxing jurisdiction. The columns, as in the tables above, show two alternative scenarios, an additional sale of 1 unit into each of the four taxing jurisdictions and an additional sale of 10 units. In the Table III calculations, it is assumed that unit price equals $30, fixed cost equals $2010 and gross profit margin equals 66.67%. Accordingly, there is no profit when 100 units are sold, there is $10 of profit when 101 units are sold, and there is $190 of profit when 110 units are sold.

**TABLE III. DSFA TAX FOR VARYING BASE CASE SALE PROPORTIONS WHERE PROFIT EQUALS GROSS MARGIN OF SALES LESS FIXED COST**

<table>
<thead>
<tr>
<th>Base Case Units Sold Out of 100</th>
<th>Base Case Tax</th>
<th>Tax on Additional Sale of 1 Unit</th>
<th>Effective Tax Rate Per Addtl $ Sold (1 Unit)</th>
<th>Tax on Additional Sale of 10 Units</th>
<th>Effective Tax Rate Per Addtl $ Sold (10 Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$0</td>
<td>$0.05</td>
<td>0.2%</td>
<td>$4.75</td>
<td>1.6%</td>
</tr>
<tr>
<td>10</td>
<td>$0</td>
<td>$0.27</td>
<td>0.9%</td>
<td>$8.64</td>
<td>2.9%</td>
</tr>
<tr>
<td>50</td>
<td>$0</td>
<td>$1.26</td>
<td>4.2%</td>
<td>$25.91</td>
<td>8.6%</td>
</tr>
<tr>
<td>80</td>
<td>$0</td>
<td>$2.00</td>
<td>6.7%</td>
<td>$38.86</td>
<td>13.0%</td>
</tr>
</tbody>
</table>
Under Table III’s fixed cost assumption, the marginal profit resulting from the units sold after the breakeven point will be allocated mainly to the higher-sale states, with the result that a marginal sale after the breakeven point will produce a lower marginal DSFA tax if the taxing jurisdiction is a low-sale state and a higher tax if the DSFA taxing jurisdiction is a high-sale state. This is the opposite of the pattern observed under the fixed profit assumption of Table I.