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ARTICLES

RISK AND REDISTRIBUTION IN OPEN AND CLOSED ECONOMIES

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INTRODUCTION

For better or worse, most wealth redistribution occurs at the level of the nation state.[1] Domestic tax and expenditure programs accordingly account for substantial amounts of gross national product in many countries. Explicit wealth transfers between nations through foreign aid, by contrast, are both perennially unpopular and relatively minimal as a fraction of the economies of developed nations. But, of course, wealth effects across jurisdictions may arise in many subtle ways that do not appear in official foreign aid budgets. Parts of the world arguably benefited greatly from domestic U.S. military expenditures that created a security umbrella during the Cold War.[2] A national tax policy that encourages research and development may lead to the discovery of new drug treatments that are ultimately shared with poorer nations under a favorable pricing regime.[3] Negative wealth effects are also

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[1] Jim Chen, Fugitives and Agrarians in a World Without Frontiers, 18 Cardozo L. Rev. 1031, 1040 (1996) ("The nation state . . . excels at *redistributing* wealth through complex decisions to tax and to subsidize."); Edward B. Foley, The Elusive Quest for Global Justice, 66 Fordham L. Rev. 249, 260 (1997) ("[T]he demands of global justice can never be as extensive as the demands of social justice within each nation-state.").

[2] See, e.g., Geir Lundestad, Empire by Invitation? The United States and Western Europe, 1945–1952, 23 J. Peace Res. 263, 265 (1986) ("In 1938 the United States had a defense budget of almost exactly 1 billion dollars. America had no military alliances and no US troops were stationed on territory it did not control. After the war the defense budget would stabilize around $12 billion. Alliances would be concluded and bases established in the most different corners of the world.").

[3] See, e.g., Bronwyn Hall & John Van Reenen, How effective are fiscal incentives for R&D? A review of the evidence, 29 Res. Pol'y 449, 449 (2000) (concluding that "a

possible. For example, military campaigns may have devastating effects on innocent parties. Or, governmental policies may encourage environmental degradation that affects other nations through the process of global climate change.[4] These more subtle effects are difficult, if not impossible, to measure in the aggregate. This Article is an effort to understand one piece of the puzzle about such implicit wealth effects. In particular, I demonstrate how common international tax instruments redistribute sums across borders in ways that have not been appreciated to date.

The redistributive effects that I describe in this Article arise because of the way in which countries tax the returns to risky cross-border investment. An analysis of the relationship between taxation and risk-taking in the domestic, or closed economy, context occupies a central role in a venerable line of public finance literature and, more recently, has captured the attention of a number of tax scholars.[5] The basic insight that motivates both tax and public

dollar in tax credit for R&D stimulates a dollar of additional R&D"); F.M. Scherer & Jayashree Watal, Post-TRIPS Options for Access to Patented Medicines in Developing Nations, 5 J. Int'l Econ. L. 913, 937–38 (2002) (discussing how U.S. tax policy could encourage pharmaceutical companies to provide AIDS drugs to developing nations for free or at very low cost).

[4] See Richard A. Westin, The SUV Advantage, 94 Tax Notes Today 1360 (2002).

[5] See Evsey D. Domar & Richard A. Musgrave, Proportional Income Taxation and Risk-Taking, 58 Q.J. Econ. 388 (1944); see also Joseph Bankman & Thomas Griffith, Is the Debate Between an Income Tax and a Consumption Tax a Debate About Risk? Does it Matter?, 47 Tax L. Rev. 377 (1992); Jeremy I. Bulow & Lawrence H. Summers, The Taxation of Risky Assets, 92 J. Pol. Econ. 20 (1984); Terrence R. Chorvat, Apologia for the Double Taxation of Corporate Income, 38 Wake Forest L. Rev. 239 (2003); Noël B. Cunningham, The Taxation of Capital Income and the Choice of Tax Base, 52 Tax L. Rev. 17 (1996); Roger H. Gordon, Taxation of Corporate Capital Income: Tax Revenues Versus Tax Distortions, 100 Q.J. Econ. 1 (1985); Louis Kaplow, Taxation and Risk Taking: A General Equilibrium Perspective, 47 Nat'l Tax'n J. 789 (1994); Jack M. Mintz, Some Additional Results on Investment, Risk Taking, and Full Loss Offset Corporate Taxation with Interest Deductibility, 96 Q.J. Econ. 631 (1981); Jan Mossin, Taxation and Risk-Taking: An Expected Utility Approach, 35 Economica 74 (1968); Deborah H. Schenk, Saving the Income Tax with a Wealth Tax, 53 Tax L. Rev. 423 (2000); David M. Schizer, Balance in the Taxation of Derivative Securities: An Agenda for Reform, 104 Colum. L. Rev. 1886 (2004); J. E. Stiglitz, The Effects of Income, Wealth, and Capital Gains Taxation on Risk-Taking, 83 Q.J. Econ. 263 (1969); J. Tobin, Liquidity Preference as Behavior Towards Risk, 25 Rev. Econ. Stud. 65 (1958); Alvin C. Warren, Jr., How Much Capital Income Taxed Under an Income Tax is Exempt Under a Cash Flow Tax?, 52 Tax L. Rev. 1 (1996); David A. Weisbach, The (Non)Taxation of Risk (Univ. Chi. Law Sch., John M. Olin Program L. & Econ., Working Paper No. 203, 2004).

finance literature on the topic is that under an income tax that pro-
vides loss offsets,[6] taxpayers and the government are in a de facto
partnership with respect to the return to risky investments. The ex-
istence of such a partnership can have important effects on the in-
centives of taxpayers and the government with respect to how
much risk to bear. But it also has important distributive effects.
That should come as no great surprise with respect to the taxation
of the upside—that is, with respect to the taxation of gains from a
risky investment that turns out to be profitable. It is perhaps
somewhat less obvious, but no less true, with respect to the down-
side. Put simply, if the government provides loss offsets, the cost of
doing so must ultimately be passed back to the private sector in
some fashion. Because it is wildly implausible that this cost would
be passed back to the very same private concern that undertook
the initial risky investment, distributive effects necessarily follow.
In the closed economy context, this is not problematic, or at least
no more problematic than the distributive effects that follow from
taxing the upside.

In the open economy setting, by contrast, that may no longer be
the case. Specifically, to the extent that one jurisdiction enjoys a
portion of the upside potential and another jurisdiction bears the
downside risk, the result is an effective redistribution of wealth
from the former jurisdiction to the latter. I adopt the label "diver-
gence" in this Article to capture such a split of upside and down-
side across jurisdictions.

A simple example at the outset may be useful to demonstrate
how divergence arises. Suppose a U.S. automobile manufacturer
wishes to develop, build, and market a revolutionary engine that
runs entirely on electricity. To this end, the manufacturer decides
to establish a subsidiary in Germany, where the manufacturer has
no current operations, but where it has been determined that there
is substantial engineering expertise in the local labor market and a
sympathetic consuming public with an environmentalist bent. The

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[6] The term "loss offset" refers generically to any case in which the government
grants a tax benefit to taxpayers incurring a net loss on an investment. Examples of
loss offset provisions could include a rule allowing a taxpayer to deduct a loss against
net income from profitable investments, thus reducing the amount of taxable income,
as well as a scenario in which the taxpayer has no net income against which to offset
the loss but nonetheless receives a refund from the government.

U.S. parent company capitalizes its subsidiary with $100 million in cash from retained earnings. Management views the investment as a highly risky one, with the possibility of huge success but also the possibility of a catastrophic, embarrassing failure. In ways that I describe in detail below, common international tax rules treat this transaction in a seemingly odd way. If the investment strikes gold, Germany will likely possess the primary right to tax profits. But if the investment fails, resulting in a total loss of the initial $100 million investment, such loss will be borne by a combination of the U.S. fisc (through loss offsets) and the automobile manufacturer. This example captures the essence of divergence. In international tax parlance, Germany is the source jurisdiction and the United States is the residence jurisdiction. Divergence, as we will see, involves the systematic shift of upside potential to source jurisdictions combined with the shift of the corresponding downside to residence jurisdictions. More specifically, I define divergence as a phenomenon that arises when a source jurisdiction taxes realized gains from cross-border investments at a higher rate than the rate at which it provides offsets for realized losses.

The basic positive goal of this Article is to show how and when divergence arises. My normative claim has two aspects. First, I advance the thesis that the distributive consequences of divergence are normatively problematic. Specifically, the source jurisdiction's failure to provide loss offsets in a fashion reciprocal to the taxation of gains effectively imposes a tax cost on taxpayers in the residence jurisdiction. In light of the limited nature of the entitlement to tax on the basis of source, this results in a distribution of the tax burden that lacks political legitimacy. Second, in light of political economy constraints on the removal of divergence, I urge that greater attention be paid to the phenomenon in the creation of domestic and international tax policy. Part I will determine the rate of divergence under common international tax instruments, and demonstrate three important results. First, I will show that the rate of total divergence is captured by the effective tax rate in the source jurisdiction. Second, I will show that the manner of double tax relief afforded by the residence jurisdiction determines how the downside is split across the public and private sectors of that jurisdiction. Third, these conclusions are independent of the relative rates in the source and residence jurisdictions. Part II will offer a

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rough quantitative assessment of the amount of divergence with real world capital flows out of the United States in a sample year. Under my calculation the amount of divergence appears to be substantial—approximately $10.6 billion. Part III will advance the thesis that the distributive effects of divergence are normatively problematic. Part IV will take up considerations of political economy. I will examine the question of why there has been no prior call to end divergence, as well as the question of whether we can expect any such attempt in the future. I will explain here that any explicit end to divergence is unlikely because it would conflict with distributive commitments in the wholly domestic setting. Finally, Part V will discuss tax policy implications in a world with divergence. That is, assuming divergence will endure, I will show why and how it should influence policymaking with respect to domestic loss offsets, tax subsidies, transfer pricing, double tax relief, and foreign aid.

I. THE RATE OF DIVERGENCE (PUBLIC AND PRIVATE)

A. Gain-Loss Differentials

Divergence is a phenomenon that arises because of the different ways in which residence and source jurisdictions tax gains and losses in the cross-border context. Analytically, the starting point is to examine how a given jurisdiction taxes gains, and compare that to how it treats losses (such as the use of loss offsets). Enlisting the useful term recently coined by Dean David Schizer, we can capture that relationship through the "gain-loss ratio."[7] If we take t_P to be the tax rate applicable to profits and t_L to be the tax rate applicable to losses, then the gain-loss ratio is simply t_P/t_L.[8] A regime that employs so-called "full loss offsets" taxes gains and losses symmetrically. That is, $t_P = t_L$, and thus the gain-loss ratio is equal to 1. However, because jurisdictions sometimes provide no loss offsets ($t_L =$

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[7] See Schizer, supra note 5, at 1897.

[8] See id. The term "tax rate" on losses refers to the rate at which the tax system compensates the investor taxpayer for his loss, not to an additional liability for that loss. For example, taxation of a loss at 10% simply means the jurisdiction provides a loss offset equal to 10% of the value of the loss. For a $100 loss, the residence jurisdiction might provide a $100 deduction against income that would otherwise be taxed at a 10% rate.

0), I introduce a slightly modified definition to avoid division by zero. In particular, I will examine the difference between the tax rate applied to gains and that applied to losses. I will refer to this amount $(t_P - t_L)$ as the gain-loss differential. Under this terminology there are three possibilities: (i) a government taxes gains and losses symmetrically, in which case the gain-loss differential is zero; (ii) a government taxes gains at a higher rate than the rate it uses to determine loss offsets, in which case the gain-loss differential will be greater than zero; or (iii) a government taxes gains at a lower rate than the rate it uses to determine loss offsets, in which case the gain-loss differential will be less than zero.

Divergence arises where a jurisdiction disproportionately captures upside potential on a risky investment, while the corresponding downside is shifted to either the private or public sector of another jurisdiction. Interestingly, it is the source jurisdiction that routinely captures a disproportionate amount of the upside potential: such jurisdictions often tax gains at a higher rate than that used to determine loss offsets, resulting in gain-loss differentials that are greater than zero. The corresponding downside, of course, must go somewhere. One obvious possibility is that the downside is shifted to the residence jurisdiction fisc. That will be the case where the residence jurisdiction has a gain-loss differential that is less than zero, that is, where the rate used to tax gains is less than the rate used to determine losses. I will refer to this state of affairs as public divergence because the downside is essentially shifted to the public sector of the residence jurisdiction.[9] Any residual downside not borne by the residence jurisdiction fisc must be borne by the taxpayer suffering the loss. I will refer to that phenomenon as private divergence.

The gain-loss differential is a useful construct because it allows one to determine the existence of divergence simply by examining the source jurisdiction's gain-loss differential. The magnitude of

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[9] My claim here is simply that the residence jurisdiction fisc bears the downside in the first instance. I do not undertake in this paper an analysis that seeks to identify the final incidence of costs that initially lie with the residence jurisdiction fisc. Although the analysis is incomplete in this respect, it is reasonable to assume that the final incidence disproportionately falls on residence jurisdiction taxpayers. Because the normative claims of this paper center around distributive effects between nations, the final incidence analysis is less crucial than in other contexts.

the source jurisdiction's gain-loss differential is also important because it provides a means of quantifying the rate of divergence. That is, the magnitude of the gain-loss differential provides an indication of the spread between the treatment of upside and downside.

As will be demonstrated below, the rate of total divergence is solely a function of source jurisdiction tax policy, while the division between public and private divergence is directly a function of residence jurisdiction tax policy. For example, where a source jurisdiction taxes profits on a transaction at 30% and losses on the same transaction at 10%, the rate of total divergence is 20% (i.e., 30% – 10%). Suppose that for the same transaction the residence jurisdiction would tax gains at 5% and losses at 20%. The rate of public divergence in this case would be 15% (i.e., 5% – 20%).[10] The residual divergence rate of 5% (i.e., 20% – 15%) is the amount of private divergence. Alternatively, private divergence can be calculated directly. The hypothetical taxpayer may face aggregate home and foreign taxation of profits at a rate of 35% (i.e., 30% + 5%), but aggregate home and foreign taxation of losses at a rate of 30% (i.e., 10% + 20%). The difference of 5% is the rate of private divergence here.[11]

B. A Baseline Case

The remainder of this Part involves a fair amount of technical detail. Lest the central conclusions be lost, it will be useful to highlight them at the outset. There are three. First, the rate of total divergence is always captured by the effective tax rate that the source jurisdiction applies to profits. This is an important result for what it tells us about the relation between divergence and the interaction of source and residence country taxation. Specifically, the rate of

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[10] I follow the convention of stating the *magnitude* of public divergence in the residence jurisdiction as the absolute value of the gain-loss differential.

[11] Note that my goal in introducing these terms is to capture distributional effects *across* jurisdictions, as distinguished from distributional effects *within* the residence jurisdiction (that arise, for example, because the residence jurisdiction has a non-zero gain-loss differential). Thus, the sum of public and private divergence can never exceed total divergence. More formally, I consider the rate of public divergence to be MIN (Gain-Loss Differential (Source), |Gain-Loss Differential (Residence)|). Private divergence captures the residual mismatch, if any. Thus private divergence is simply Total Divergence – Public Divergence.

total divergence is not a phenomenon that arises from the interaction of the source and resident jurisdictions' tax systems. It is, rather, simply a function of source jurisdiction tax policy. Second, the division between public and private divergence is directly a function of residence jurisdiction tax policy. Moreover, that division is importantly different in worldwide (credit) systems versus territorial (exemption) systems, because pure worldwide systems exhibit greater public divergence than pure exemption systems. Third, these two results do not depend on the difference between the rates of taxation in the residence and source jurisdictions. That is an important result because it allows us to generalize based simply on source jurisdiction tax rates and residence jurisdiction methods of double tax relief, without having to consider the many ways in which effective rates across jurisdictions may differ. These conclusions have important normative implications, which I will examine in Part III. First, however, it is necessary to dissect the tax instruments themselves to see why these conclusions follow.

Suppose, as a baseline example, that a corporate taxpayer resident in one jurisdiction, J_{RES}, makes a capital investment in a foreign jurisdiction, J_{SOURCE}, through a foreign branch (i.e., there is no distinct legal entity formed in J_{SOURCE}).[12] That capital investment has a given expected return and risk profile. Yield, y, is defined as the expected return, given a (known) probabilistic distribution of possible returns.[13] That expected return can then be decomposed into the expected values of the positive and negative portions of the probabilistic distribution, which I will refer to as p and l, respectively.[14] Thus p is a measure of the expected positive return if an in-

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[12] I restrict the analysis to corporate taxpayers because this is the way in which nearly all foreign direct investment is conducted. In my discussion of portfolio investment below, I expand the discussion to cover the case of individual taxpayers.

[13] Formally, where q represents an expected rate of return and p represents the probability of return, the definition of y is:

$$\sum_{i=1}^{n} q_i p_i$$

Domar & Musgrave, supra note 5, at 395. I follow here the basic framework presented in Domar and Musgrave's classic analysis of taxation and risk-taking.

[14] Note that the original Domar and Musgrave notations for these variables were g, for the expected positive value, and r, for the expected negative value. Id. at 394–95. Domar and Musgrave understood the magnitude of r (l in my notation) to be a measure of risk. They originally defended this definition of risk over other possibilities (in-

vestment turns out to make a profit, and l is a measure of the expected negative return if an investment turns out to make a loss. Because p and l are just the component parts of y, it is possible to decompose y as follows: $y = p + l$.[15]

J_{RES} and J_{SOURCE} each allow taxpayers the unlimited ability to offset losses against income up to the point where net income is reduced to zero. Each jurisdiction has provisions allowing for the carryback and carryover of net losses, but neither jurisdiction provides for the refundability of net losses.[16] J_{RES} and J_{SOURCE} have also entered into an income tax treaty that follows verbatim the Organisation for Economic Co-operation and Development ("OECD") Model Tax Convention on Income and on Capital.[17] Suppose finally that the taxpayer has a fixed amount of domestic source income, *DSI*, arising from activities that it undertakes in J_{RES}, and the taxpayer is entering J_{SOURCE}'s market for the first time.

The question I analyze here is: what happens if the taxpayer in fact realizes a profit, P, on the capital investment, or, alternatively,

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cluding possibilities that include analysis of variance) on the ground that it is the cutoff between positive and negative returns—between profits and losses—that is of crucial importance under a proportional income tax. The adopted definition of risk thus fits hand in glove with their ultimate normative claims, which relate to the optimal design of loss offsets in the tax system. My motivations for using this definition are similar. Because my descriptive project relates to the way in which the distinction between profits and losses plays out under common international tax instruments, it is exactly the decomposition of yield into its positive and negative components, as defined above, that will expose the relevant features of the law. Finally, it is worth noting that l, as defined here, is closely related to mean variance approaches to risk. For a normal distribution, as mean variance increases, so too necessarily will l.

[15] Technically, Domar and Musgrave state the relation as $y = g - r$ (or $p - l$ in my notation). Id. This simply reflects the fact that they define r as the expected value of negative returns multiplied by (-1). This allows them to treat r as a positive number. As defined in the text, I treat l as a negative number.

[16] That is an accurate description of real-world tax systems. A further assumption is that there is no de facto refundability through provisions that allow taxpayers to alienate their losses in the market. It is more difficult to generalize with respect to this issue, but it is nonetheless true that many jurisdictions attempt to restrict the alienability of losses by using dollar thresholds, temporal eligibility, and other mechanisms. See, e.g., I.R.C. § 382 (2000). For other examples of nations that restrict alienation of net operating losses, see PricewaterhouseCoopers, Corporate Taxes: Worldwide Summaries 2003–2004 at 64 (Belgium), 103 (Bulgaria), 113 (Cambodia), 124 (Canada), 204 (Denmark), 239 (Fiji), 311 (Hong Kong), and 440 (Latvia) (2003).

[17] Model Tax Convention on Income and on Capital (Comm. on Fiscal Affairs, Org. for Econ. Co-Operation and Dev. 2003), available at http://www.oecd.org/dataoecd/50/49/35363840.pdf [hereinafter OECD Model Tax Convention].

realizes a loss, L?[18] In this analysis I will denote the tax rate in J_{SOURCE} as t_S and the tax rate in J_{RES} as t_R. Because I wish to take account of the possibility in certain parts of the analysis that source and residence jurisdictions have different tax bases, I will treat t_R and t_S as effective rates rather than statutory rates.[19]

I first consider scenarios in which J_{RES} relieves international double taxation through a foreign tax credit and then scenarios in which J_{RES} relieves international double taxation through an exemption method.[20] As will become clear, I adopt at this point quite stylized descriptions of the rules of credit and exemption systems. My goal here is not so much to describe the rules of any particular system as to highlight the features of various tax systems that give rise to the phenomenon of divergence. As is well known, no country applies a pure credit or pure exemption system.[21] Rather, real world systems apply what are best thought of as hybrid systems with elements of both. Still, substantial differences exist among countries, with some jurisdictions tilting substantially toward one end of the spectrum and other jurisdictions tilting substantially toward the other. Thus my stylized examples below provide insight on the question of how this phenomenon is likely to play out in various jurisdictions.

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[18] I adopt throughout this Article the convention of using a capital P and L to represent actual realized profits and losses ex post, while I use a lowercase p and l to represent the expected value of the probabilistic distribution of profits and losses ex ante.

[19] Using effective tax rates covers the possibility of progressive rate structures. Thus, one should understand the terms t_R and t_S to represent whatever tax rate is applicable given the jurisdiction's progressive rate structure. Because the important element that requires analysis here is the *differential* rate between the residence and source jurisdictions, the feature of progressivity does not add anything to the analysis. That is, whether that differential arises by virtue of different flat rate structures or the application of different brackets (under either different or identical progressive structures) is irrelevant.

[20] These are the two basic methods of double taxation relief. In an exemption system, the sovereign disclaims jurisdiction to tax foreign-source income (i.e., income earned outside its sovereign borders). In a credit system, the sovereign includes all income of residents in the tax base but provides a credit, under specified circumstances, for foreign taxes paid. Because exemption systems only tax their residents on domestic source income, they are typically referred to as "territorial" systems. By contrast, credit systems, because they include income in the tax base regardless of source, are typically referred to as "worldwide" systems.

[21] See Hugh J. Ault & Brian J. Arnold, Comparative Income Taxation: A Structural Analysis 358 (2d ed. 2002).

C. Credit System

In considering the level of divergence where the residence juris-diction applies a foreign tax credit, I will first examine the rela-tively simple case where J_{SOURCE} and J_{RES} have identical tax systems. I will then turn to the more complicated cases, where the effective rate in one jurisdiction is greater than that in the other.

1. Identity of Tax Systems ($t_S = t_R$)

I analyze here the consequences to the taxpayer under the base-line scenario, where J_{RES} relieves double taxation through a foreign tax credit, and the jurisdictions have identical tax rates and defini-tions of the tax base (i.e., $t_S = t_R$). In general, the source country would exercise the primary taxing jurisdiction.[22] This means that J_{SOURCE} will tax the positive return on the profitable investment at tax rate t_S and collect tax revenue equal to Pt_S. J_{RES}, which applies a credit system, will require the taxpayer to bring P into income, giv-ing rise to a tentative tax liability Pt_R. However, assuming the re-quirements of the foreign tax credit have been met, the taxpayer may claim exactly Pt_R in foreign tax credits, thereby reducing the liability to J_{RES} to zero.[23] The tax treatment of a loss would be dras-tically different. Although the source jurisdiction exercises the primary taxing jurisdiction, it will not bear any portion of this loss (assuming that there is no refundability of net losses). J_{RES}, how-

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[22] OECD Model Tax Convention, supra note 17, arts. 5, 7, 23A, 23B. Collectively, these articles provide that the source country may tax the business profits attributable to a permanent establishment therein, and that the residence country must provide double tax relief through either a credit or an exemption.

[23] Under U.S. law, the taxpayer would be able to credit taxes paid to a foreign gov-ernment (here Pt_S) under I.R.C. § 901(a) and (b), subject to the limitations set forth under I.R.C. § 904. Assuming for simplicity that the taxpayer's domestic source in-come (*DSI*) and the profit from the foreign investment (*P*) represent *net* amounts (i.e., all deductions have already been allocated and apportioned), then the overall limitation of I.R.C. § 904 would permit a maximum credit here of

$$t_s\left(DSI + P\right)\tfrac{P}{DSI+P}$$

or simply Pt_S. Because only one item of income is involved in this example, one can ignore the separate basket limitations under I.R.C. § 904(d).

ever, permits the loss to be offset against the taxpayer's domestic source income.[24] That is, J_{RES}'s tax revenue decreases by Lt_R.

Under these assumptions, the same results follow for any realized positive or negative return. That is, on any positive return P, J_{SOURCE} collects Pt_S and J_{RES} collects nothing, and on any negative return L, J_{SOURCE} bears no cost and J_{RES} bears a cost of Lt_R (assuming that the loss can be offset, i.e., that $DSI \geq L$ is within the bounds of the applicable carryback/carryover window of J_{RES}). Thus, for any given taxpayer undertaking a risky cross-border investment, the J_{RES} fisc bears ex ante the full expected downside tax cost, lt_R, of the negative component of the return, and J_{SOURCE} enjoys the full expected upside tax benefit, pt_S, from the positive component of the return. I summarize the decomposition of the expected yield in Table I-A.

Table I-A: Decomposition of Yield Under Baseline Case with a Foreign Tax Credit

Tax Rate in Source Country = Tax Rate in Residence Country

	Profit (p)	Loss (l)
J_{RES}	0	lt_R
J_{SOURCE}	pt_S	0
Taxpayer	$p(1 - t_S)$	$l(1 - t_R)$

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[24] Credit countries typically allow foreign losses to offset domestic source income. For example, U.S. law permits a deduction for losses generally, without any limitation for losses that arise from foreign investments. I.R.C. § 165. Where an overall foreign loss is used to offset domestic source income, the loss may be "recaptured" through operation of the foreign tax credit limitation rules. I.R.C. § 904(f). In brief, under this provision, the taxpayer must reduce the amount of foreign tax credits in subsequent years where there is overall net foreign source income. If the taxpayer never experiences net foreign source income, however, the loss is never recaptured. Note that although most credit countries follow the approach of allowing net foreign losses to offset domestic source income, this approach is not universal. See Ault & Arnold, supra note 21, at 367 (noting that Australia generally does not permit foreign losses to offset domestic source income). Also, some credit countries that do permit such losses lack recapture rules. See id. at 368 (noting that Japan does not reverse the effect of a taxpayer's use of foreign losses to offset domestic income).

Once these various claims have been identified, analyzing the existence and rates of divergence is a straightforward matter. The gain-loss differential in J_{SOURCE} is $(t_S - 0)$, and thus the rate of divergence is simply t_S. The gain-loss differential in J_{RES} is $(0 - t_R)$, and thus the rate of public divergence is t_R, which is the same as t_S under current assumptions. Finally, given the equality of total divergence and public divergence, no private divergence exists in this case.[25]

Table I-B: Rates of Divergence Under Baseline Case with a Foreign Tax Credit

Tax Rate in Source Country = Tax Rate in Residence Country

	Rate
Total Divergence	t_S
Public Divergence	t_S
Private Divergence	0

2. Source Jurisdiction Has (Relatively) Low Tax ($t_S < t_R$)

Consider next the case where the source jurisdiction applies a lower rate of tax than the residence country (i.e., $t_S < t_R$). Generally, when a taxpayer resident in a credit country invests into a relatively low tax jurisdiction, the result is that the taxpayer faces a potential residual residence jurisdiction tax liability on profitable investments. The reason is that the taxpayer's liability to the residence jurisdiction is determined by the higher rate t_R and foreign tax credits, which are determined at the lower rate t_S, will be insufficient to offset fully the residence country tax. More formally, where the taxpayer realizes a positive return P, the credit should operate to levy a tax in the residence country equal to $Pt_R - Pt_S$.[26]

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[25] The direct calculation of private divergence is $(1 - t_S) - (1 - t_R)$, which is zero on the assumption that t_S and t_R are identical.

[26] Under U.S. law, the mechanical analysis is essentially the same as the one described above, with modification for the different tax rates. See supra note 23. Thus the taxpayer who realizes a positive return P would have tentative tax liability of Pt_R and would be able to credit taxes paid to a foreign government (here, Pt_S) under I.R.C. § 901(a) and (b), subject to the limitations set forth under I.R.C. § 904. Here, the overall limitation of § 904 would permit a maximum credit of

$$t_s\left(DSI + P\right)\frac{P}{DSI+P}$$

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Losses on a realized negative return would still be borne entirely by the residence country in an amount equal to Lt_R.[27] I summarize the decomposition of the expected yield in Table II-A.

Table II-A: Decomposition of Yield Under Baseline Case with a Foreign Tax Credit

Tax Rate in Source Country < Tax Rate in Residence Country

	Profit (p)	Loss (l)
J_{RES}	$p(t_R - t_S)$	lt_R
J_{SOURCE}	pt_S	0
Taxpayer	$p(1 - t_R)$	$l(1 - t_R)$

This decomposition reveals that the divergence when the tax rates of the jurisdictions are different is the same as when the tax rates are identical. Specifically, the gain-loss differential in J_{SOURCE} is $(t_S - 0)$ and thus total divergence exists at the rate t_S. The gain-loss differential in J_{RES} is the difference between how it taxes profits (incorporating the credit) and how it treats losses: $(t_R - t_S) - t_R$, or simply $-t_S$. Public divergence thus exists at the rate t_S. No private divergence exists.

Table II-B: Rates of Divergence Under Baseline Case with a Foreign Tax Credit

Tax Rate in Source Country < Tax Rate in Residence Country

	Rate
Total Divergence	t_S
Public Divergence	t_S
Private Divergence	0

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or simply Pt_R. Because $Pt_R > Pt_S$, the taxpayer will be able to claim the full amount of credit for taxes paid to the source country (and will have excess limitation that can soak up excess foreign tax credits carried back or over to the relevant year).

[27] See supra note 24 for the relevant analysis under U.S. law.

Two points of clarification are useful. First, the provision of tax sparing credits by the residence jurisdiction does not change any of these results, so long as the source country has some tax in place (i.e., $t_S > 0$). The treatment in J_{SOURCE} remains the same, so divergence still exists at the rate t_S. The effect of tax sparing credits should be to remove, or reduce, the residual residence country tax on foreign profits.[28] This means the tax rate on profits in J_{RES} necessarily goes down and, correspondingly, the gain-loss differential will go up. An increase in the gain-loss differential would generally increase the level of public divergence. But even without tax sparing credits, public divergence already arises at the rate t_S, thus accounting for the full amount of total divergence. The fact that the gain-loss differential in the residence jurisdiction has changed has no impact on the total divergence (which is based on source jurisdiction's tax policy). Thus tax sparing credits do not change the analysis.[29]

Second, recall that in the analysis of nonidentical tax systems I take t_R and t_S to be effective rates. This is meant to capture the possibility that the jurisdictions may apply both different rates and different tax bases. There is, however, one disparity across tax systems over which the above analysis cannot generalize. Specifically, the analysis does not capture the effect where jurisdictions have different rules as to the determination of the source of income. Source disparities are unique because they generally portend a breakdown of agreed positions regarding the primacy of taxing rights. Specifically, where two jurisdictions both treat a given positive return as domestic source income, the result is that J_{SOURCE} will claim its jurisdiction to tax the return and J_{RES} will reject any obligation to provide double tax relief. In the extreme, where both ju-

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[28] "Tax sparing" refers to the practice of residence jurisdictions offering a tax credit in excess of the tax actually paid to the source jurisdiction on a foreign investment. Such credits are typically granted by developed countries with respect to investment in developing countries that offer tax incentives, such as tax holidays, to attract foreign capital. In most cases, the details regarding tax sparing provisions are spelled out in bilateral treaties. See generally OECD Model Tax Convention, supra note 17, Commentary on Articles 23A and 23B at ¶¶ 72–78; 2 Joel D. Kuntz & Robert J. Peroni, U.S. International Taxation ¶ C4.18 at C4.87 to 88 (1991).

[29] Formally, we can see the point as follows. Take the extreme case, where the effect of tax sparing credits is to remove all taxation of profits in J_{RES}. There, the gain-loss differential in J_{RES} shifts from $-t_S$ to $-t_R$ (the result of $0 - t_R$). Thus, the calculation of public divergence with no tax sparing credits is MIN $(t_S, |-t_S|)$, and with them it is MIN $(t_S, |-t_R|)$. These expressions produce the same result so long as $t_S < t_R$.

risdictions treat the entire realized profit as domestic source, this will have the effect of removing any public divergence. In the chart above, J_{RES} would now claim on an ex ante basis pt_R, rather than $p(t_R - t_S)$. Its gain-loss differential would shrink to zero, removing any public divergence. The private return would necessarily decrease to $p(1 - t_R - t_S)$ because the taxpayer is now subject to the full burden of taxation in each of the jurisdictions. The rate of private divergence would be t_S. Not surprisingly, the effect of removing all double tax relief is simply to convert the public divergence into private divergence.

3. Source Jurisdiction Has (Relatively) High Tax ($t_S > t_R$)

Finally, consider the case where the source jurisdiction applies a higher rate of tax than the residence country (i.e., $t_S > t_R$). In that case, the source jurisdiction will collect Pt_S on a positive realized return and the residence jurisdiction will bear the cost of Lt_R on the negative return.[30] I summarize the decomposition of the expected yield in Table III-A.

Table III-A: Decomposition of Yield Under Baseline Case with a Foreign Tax Credit

Tax Rate in Source Country > Tax Rate in Residence Country

	Profit (p)	Loss (l)
J_{RES}	0	lt_R
J_{SOURCE}	pt_S	0
Taxpayer	$P(1 - t_S)$	$l(1 - t_R)$

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[30] The analysis under U.S. law in the case of a realized positive return is again similar. See supra note 23. Thus the taxpayer who realizes a positive return P would have tentative tax liability of Pt_R and would be able to credit taxes paid to a foreign government (here, Pt_S) under I.R.C. § 901(a) and (b), subject to the limitations set forth under I.R.C. § 904. Here the overall limitation of I.R.C. § 904 would permit a maximum credit of

$$t_s (DSI + P) \frac{P}{DSI + P}$$

or simply Pt_R. Because $Pt_R < Pt_S$, the taxpayer will be able to claim the full amount of credit for taxes paid to the source country (and will have excess foreign tax credits that may be carried back or over under I.R.C. § 904(c)). Under the assumption of one foreign investment, cross-crediting with respect to low-taxed foreign source income in the given tax period is not possible.

As above, the gain-loss differential in J_{SOURCE} is t_{S} and the rate of divergence is captured by t_{S}. The gain-loss differential in J_{RES} is $-t_{\text{R}}$, and thus the rate of public divergence is simply t_{R}. The rate of private divergence must account for the residual and thus is captured by the term $t_{\text{S}} - t_{\text{R}}$.

Table III-B: Rates of Divergence Under Baseline Case With a Foreign Tax Credit

Tax Rate in Source Country > Tax Rate in Residence Country

	Rate
Total Divergence	t_{S}
Public Divergence	t_{R}
Private Divergence	$t_{\text{S}} - t_{\text{R}}$

D. Exemption System

As we have just seen, the analysis of the baseline case in which J_{RES} applies a foreign tax credit depends in part upon the differential rates of tax applied in the residence jurisdiction and the source jurisdiction. The analysis of the baseline case in which J_{RES} relieves double taxation through an exemption method is more straightforward. The essence of an exemption method is that J_{RES} excludes foreign source profits and losses from taxation altogether.[31] Importantly, the exemption of foreign source gains and losses is not, as a

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[31] The exemption method that I describe here is sometimes referred to as a base exemption method. Under such a system, foreign source gains and losses are simply exempted from the domestic tax *base*. This can be distinguished from a so-called tax exemption method (sometimes called exemption with progression), in which foreign source gains and losses enter the domestic tax base, but relief is provided for the domestic tax applicable to that portion of the base. See Ault & Arnold, supra note 21, at 372. In the present analysis, the distinction between base exemption methods and tax exemption methods is substantial because in a system that applies exemption with progression, foreign losses may reduce the *rate* of tax on domestic source income. Id. at 376. This means that some portion of the loss is in effect shifted to the public sector. Thus, tax exemption methods lie somewhere in between my stylized depiction of a credit system and my stylized depiction of an exemption system.

general matter, contingent upon the tax rate in the source jurisdiction.[32] Thus the tax treatment is constant in J_{RES}, irrespective of the relative rates of taxation in the source and residence jurisdiction. This makes it possible to collapse the analysis of the baseline case into one decomposition of expected yield, rather than three, as was the case above.

Under the same analysis offered above, J_{SOURCE} would have the primary right to tax a realized profit P, and thus would capture tax revenue of Pt_S. With respect to a realized loss of L, no part of the cost of the loss would be borne by J_{SOURCE} (based on the constant assumption of nonrefundability). And, as just noted, J_{RES} will ignore the loss as well.[33]

Again, under the relevant assumptions, these results follow for every positive realized return P and every negative realized return L. Thus, on an ex ante basis for a given taxpayer, J_{SOURCE} enjoys the full expected upside pt_S and J_{RES} observes no tax consequences at all. However, the private sector of J_{RES}, which is not permitted a deduction for its loss, bears the full downside l. I summarize the decomposition of the expected yield in Table IV-A.

Table IV-A: Decomposition of Yield Under Baseline Case with an Exemption Method

	Profit (p)	Loss (l)
J_{RES}	0	0
J_{SOURCE}	pt_S	0
Taxpayer	$P(1 - t_S)$	L

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[32] Some exemption systems, however, condition the exemption on income being "subject to tax" in the foreign jurisdiction. Id. at 373.

[33] This is the most crucial point where the stylized description of a pure exemption system glosses over important real world subtleties. Many countries that are considered territorial systems do permit the deductibility of foreign losses to some extent. For example, in the Netherlands, a taxpayer may deduct net foreign losses against domestic income on a per-country basis. Id. at 376. Not surprisingly, to the extent that jurisdictions with territorial systems do provide some relief for foreign losses, the analysis of divergence will move some distance in the direction of that seen under a pure credit system.

This decomposition highlights the difference between pure credit and pure exemption methods. As above, the gain-loss differential in J_{SOURCE} is t_{S}, and this indicates the rate of total divergence. Unlike the cases examined above, however, the gain-loss differential for J_{RES} is zero and thus there is no public divergence. Rather, all divergence is private divergence, which is also specified by the rate t_{S}.

Table IV-B: Rates of Divergence Under Baseline Case with an Exemption

	Rate
Total Divergence	t_{S}
Public Divergence	0
Private Divergence	t_{S}

E. Alternate Transactional Structures

In the baseline case, I considered only the scenario where a taxpayer makes a single, wholly owned investment through a foreign branch. I consider in this Section alternative transactional structures that capture important real-world elements. In particular, I consider the effect of multiple foreign investments, the structuring of investments through a controlled foreign corporation rather than a branch, and the making of portfolio investments. As we shall see, even under these alternate structures the total rate of divergence is still specified by the term t_{S}. The structures can, however, have important, though subtle, effects on the division between public and private divergence.

1. Multiple Foreign Investments

In the discussion of the baseline case, I assumed that there was only a single risky foreign investment. Allowing for multiple investments by the taxpayer has the important consequence that J_{SOURCE} may be required to assume a portion of the cost of any loss

borne on a single investment. In particular, to the extent that other investments in J_{SOURCE} are profitable, either in the same taxable period or within the relevant carryback or carryover window, the consequence is that J_{SOURCE} would now provide at least some loss offset. In the extreme case, if the magnitude of positive income equals that of any possible realized loss L in the years within the carryback-carryforward window, then J_{SOURCE} will bear the full cost of Lt_S on a realized loss.[34] On an ex ante basis, the source jurisdiction expects the cost of a loss to be lt_S. Thus the gain-loss differential in the source jurisdiction shrinks to zero, and the divergence is removed.

Although the multiple investment case will thus tend to diminish the effects of divergence, several points are worth highlighting here. First, some divergence will necessarily continue to exist when a given taxpayer has net foreign source losses over the life of the taxpayer (assuming no refundability). Second, divergence will continue to exist where the taxpayer has net foreign source profits over its lifetime but experiences foreign source losses in a given taxable period which expire because they are not usable within the allowed carryback-carryover window.[35] Finally, even if the taxpayer is able to carry back or carry over all experienced losses, divergence persists to the extent that carryovers are not adjusted by an appropriate rate of interest. For example, suppose a taxpayer experiences a foreign source loss that will ultimately be carried forward to offset income in a period five years later. Assuming there

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[34] In the case where the loss is used to offset gains in another taxable period, the taxpayer may receive a potential double benefit insofar as the loss in the first taxable period has already been used to offset domestic source income. The United States seeks to recapture this benefit under I.R.C. § 904(f). Not all credit countries, however, have such recapture rules. See supra note 24. The possibility of such a double benefit does not arise where the residence country taxes on a territorial basis because in that case, the residence jurisdiction would not have permitted the foreign source loss to offset domestic source income in the first instance. I stress that the presence of such a double benefit does not affect the degree of divergence, as defined here. Once the source jurisdiction is taxing gains and losses symmetrically (i.e., the gain-loss differential is zero) the divergence is removed. Further effects that arise from the residence jurisdiction treatment of overall foreign losses, such as the provision (or not) of recapture rules, impact only the split between public divergence and private divergence.

[35] In an attempt to prevent loss trafficking, jurisdictions may limit the ability to use pre-acquisition losses against post-acquisition income. See, e.g., I.R.C. § 382. This may dampen the effect of carryover windows that might otherwise be available.

is no interest adjustment, the loss is effectively borne by the residence jurisdiction during this five-year window.

2. Controlled Foreign Corporations Versus Branches

In the baseline case, I considered the example of a taxpayer investing abroad through a branch. Cross-border investments more typically occur, however, through local corporations, so it is necessary to consider how the conclusions of the baseline case are likely to play out under such a transactional structure.[36] I consider here the case where the foreign corporation is controlled by the domestic corporation, saving considerations specific to portfolio investment for the next subsection. Jurisdictions may differ on what constitutes "control" of a foreign subsidiary.[37] To simplify the analysis, I take the case here of a wholly-owned foreign subsidiary.

I make two basic observations, which are useful to highlight at the outset. First, structuring an investment through a foreign subsidiary should not change the rate of overall divergence. Second, for a credit country, such a structure can have the effect of shifting some public divergence into private divergence, as compared to the branch case.

The constancy of the rate of overall divergence follows from the relatively simple point that source jurisdictions generally tax the operations of a branch and a local corporation under similar tax regimes. In the treaty context, at least, the source jurisdiction is

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[36] See Panel Report, *United States*—Tax Treatment for "Foreign Sales Corporations," ¶ 118, WT/DS108/RW (Aug. 20, 2001), available at LEXIS 2001 WTD 168–33 ("It is, however, crucial to note that situations whereby the foreign manufacture is performed by a branch of a US corporation are in relative terms bound to be far less common than those where the US corporation decides to establish a subsidiary in the foreign jurisdiction to undertake such activities.").

[37] Compare Thomas Fröbert, Media Reports Spark New Calls For Transfer Pricing Probe, 27 Tax Notes Int'l 1591 (2002) ("'Control' means that the foreign parent owns more than 50 percent of the stock of the Danish company or that the Danish company owns more than 50 percent of the stock in the foreign subsidiary."), with John B. Shewan, New Zealand Enacts New Depreciation Rules; Amends Treatment Of Foreign-Source Income and Deemed Dividends, 6 Tax Notes Int'l 1239 (1993) (defining control as "1) five or fewer New Zealand residents have aggregate control interests of more than 50 percent; 2) a single New Zealand resident holds an interest of at least 40 percent and no nonresident holds a control interest equal to or greater than 40 percent; or 3) a group of five or fewer New Zealand-resident persons has the power to ensure that the affairs of the foreign company are conducted in accordance with the wishes of the group").

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generally precluded from applying a more onerous tax treatment to the branch under nondiscrimination principles.[38] Thus the taxation of branch profits and subsidiary profits should both arise at the rate t_S.[39] On the loss side of the equation, the source jurisdiction still will not, under my assumption of nonrefundability, bear any part of a net subsidiary loss. Thus the gain-loss differential of the source jurisdiction, and the overall rate of divergence, is simply t_S.

The division of total divergence between private and public divergence is essentially a timing issue. If the residence jurisdiction relieves double taxation through a foreign tax credit, the effect of investing through a foreign corporation instead of a branch, at least in the short term, is to convert all public divergence into private divergence. The reason is that the residence jurisdiction will not allow losses to flow through the controlled foreign subsidiary to its parent company. Thus, the foreign losses are of no use to the taxpayer, even if there is other domestic source income at the parent level against which the losses could be offset. The effect is that the tax rate for losses in the residence jurisdiction is zero. Thus the gain-loss differential cannot be negative and there can be no public

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[38] E.g., OECD Model Tax Convention, supra note 17, art. 24. The source jurisdiction could provide more favorable treatment to foreign taxpayers in an attempt to attract foreign capital, while not granting the benefit to domestic interests in order to preserve revenue. In such cases of "ring-fencing," however, it would be odd for the source jurisdiction to distinguish between branches of foreign corporations and local subsidiaries of foreign corporations, given that each involves the attraction of foreign capital. Cf. Comm. Fiscal Affairs, Org. for Econ. Co-operation & Dev., Harmful Tax Competition: An Emerging Global Issue 26 (1998) (describing "ring-fencing" as the practice of offering incentives for foreign capital that are isolated from the domestic economy). I thus ignore the possibility in the current analysis.

[39] The variable t_S refers to the rate of a corporate income tax. To be complete, one must also take account of shareholder-level taxes. Note that where the source jurisdiction imposes a withholding tax on dividends paid by a subsidiary to a foreign parent but imposes *no* branch profits tax, then the combined source country corporate and shareholder tax rate can differ in the branch and subsidiary case. The rate of divergence would still be captured by t_S (now reflecting combined shareholder and corporate taxes), but t_S would be relatively higher in the subsidiary case. In the case where the source jurisdiction *does* apply a branch profits tax, there will likely be no difference between the differential rates of the branch profits tax and the dividends withholding tax because such disparities are generally eliminated by treaty. See, e.g., U.S. Model Income Tax Convention art. 10(9) (1996), available at http://www.irs.gov/pub/irs-trty/usmodel.pdf (capping rate on branch profits tax at amount equal to dividends withholding tax).

divergence.[40] Losses are therefore borne entirely in the private sector, producing the result that the rate of private divergence is t_S. In effect, the credit system, which respects the separate status of the controlled foreign subsidiary, simply behaves like an exemption system.

The analysis changes, however, upon a disposition of shares in the foreign subsidiary. The first thing to note is that the rate of total divergence remains constant at t_S, notwithstanding the fact that the source jurisdiction generally would not tax a realized profit upon a stock disposition.[41] That result seems odd because it looks like the source jurisdiction no longer has the primary right to tax the upside. That seeming oddity dissolves, however, as soon as one appreciates that any gain on a stock disposition should simply reflect gain at the underlying corporate level. Such gain may have already been realized (and taxed by the source country) at the corporate level but not yet distributed. Or the profit may be unrealized at the corporate level but continue as a latent source country tax inherent in low-basis corporate assets. The source country tax, whether already imposed or latent, preserves total divergence at a rate equal to t_S.

Just as in the baseline case of a foreign investment through a branch, the division of total divergence between the public and private sectors is a matter of the gain-loss differentials of J_{RES} and of the taxpayer. The analysis largely tracks the discussion of the branch case. Where J_{RES} applies an exemption method, any gain from the sale of shares would generally be exempt from tax and any foreign source loss would be ignored. Thus the entire amount of the total divergence is private divergence. Where J_{RES} applies a credit method, the gain from the sale of shares should carry an indirect foreign tax credit (thus mirroring the tax effect in the branch case) and any realized loss should be available to offset other income of the taxpayer.[42] Thus the rates of public and private diver-

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[40] Note that the current taxation of any *profits* under controlled foreign corporation anti-deferral rules does not change this result. The gain-loss differential for J_{RES} will still be positive, resulting in no public divergence.

[41] See OECD Model Tax Convention, supra note 17, art. 13(5).

[42] Residence countries may provide double tax relief in this circumstance even if generally applicable rules would attribute domestic source to the gain from the sale of stock. For example, the United States generally recharacterizes the gain on stock in controlled foreign corporations, to the extent previously realized, as foreign source

gence, at least as of the time of a disposition of shares, should track those outlined in Tables I-B through IV-B above. However, since the private sector bears the realized loss pending disposition of the shares, the ratio of private-to-public divergence is in fact higher under the controlled foreign corporation structure. To measure the difference, one would need to select an appropriate discount rate and then determine the period between loss realization and disposition of shares.

3. Portfolio Investment Versus Direct Investment

I consider here the case of a portfolio investment (undertaken either by a resident corporation or individual) in a foreign corporation undertaking a risky investment.[43] The first point to highlight in the analysis of such a structure is that it no longer makes sense to draw a broad distinction between credit and exemption systems (even in their stylized versions) because exemption systems generally behave like credit systems in the case of portfolio investment.[44]

By now it should not be surprising that the two pertinent issues requiring analysis are the rate of overall divergence and the split between public and private divergence. On the first issue, the rate of total divergence is again specified by the effective tax rate in the source jurisdiction. That is, on the assumption of nonrefundability, J_{SOURCE} will capture t_s of a realized profit at the underlying corporate level but will not provide a loss offset for a net realized loss. As with the controlled foreign corporation case, the rate of total

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dividend income. I.R.C. § 1248. The significance of that recharacterization is that it permits the U.S. corporate seller to claim an indirect foreign tax credit. See I.R.C. § 902.

[43] My initial focus on direct, rather than portfolio, investment may appear out of step with much of the tax and risk literature, which often expressly limits analysis to the case of portfolio investment. That limitation, however, has a specific genesis, which does not bear upon the descriptive analysis undertaken here. In particular, the primary reason to limit discussion to portfolio investment is that analysts assume that the taxpayer can more readily enter the market and procure additional portfolio investments of the same character (i.e., either identical investments or investments with the same risk profile). The availability of additional investment opportunities will be a central concern *if* one's analysis depends on how much the taxpayer increases, or scales up, the level of risk bearing under the income tax. The descriptive and normative claims I make here, however, do not depend for their validity on any particular taxpayer response or adjustment to investment holdings.

[44] Ault & Arnold, supra note 21, at 372–73.

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divergence, t_{S}, can encompass both underlying corporate tax and any shareholder-level tax captured through a withholding tax on dividends. Moreover, the actual rate of withholding tax may differ for dividends on direct and portfolio investments.[45] This means that the total rate of divergence is likely to differ depending on whether a capital investment is direct or portfolio. The rate of divergence in both cases, however, is still captured by the term t_{S}.

With respect to the division between public and private divergence, a transactional structure involving portfolio investment is similar in an important way to the controlled foreign corporation structure just examined. In particular, losses will not flow through to the portfolio investor prior to a disposition of shares.[46] Thus, pending such a disposition, all divergence necessarily lies in the private sector. Upon a disposition of shares, however, the divergence may shift from private to public. The chief difference between portfolio investment and direct investment through a foreign subsidiary is the magnitude of any such shift to public divergence. That difference, in turn, stems from the fact that jurisdictions generally do not give an indirect credit for underlying corporate tax to portfolio investors. This means that J_{RES} will capture more of the upside on a realized profit, thus reducing its gain-loss differential and accordingly reducing the public divergence, relative to the direct investment cases.

One can quantify that difference between direct and portfolio investment in the following manner. Although jurisdictions do not give portfolio investors an indirect credit for underlying corporate tax, such investors do enjoy a de facto deduction for foreign taxes. This follows from the fact that share value, and thus the amount of gain realized by a portfolio investor from a sale of shares, should reflect a decrease for any taxes paid to a foreign government. Similarly, share price should capitalize any latent foreign taxes inherent

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[45] See, e.g., OECD Model Tax Convention, supra note 17, art. 10(2) (capping source country right to tax dividends on portfolio investment at 15% for individuals and 5% for controlling corporate shareholders); art. 11(2) (capping source country right to tax interest at 10%).

[46] Also similar to the CFC case is the fact that *profits* may flow through to the shareholder currently under regimes such as the U.S. rules regarding passive foreign investment companies. However, in the absence of any loss flow-through, the gain-loss differential of J_{RES} is necessarily greater than zero, and thus no public divergence exists.

in low basis corporate assets. In other words, on the portfolio investor's share of a profit P realized at the underlying corporate level, the tax effect in J_{RES} upon disposition of shares should be $t_R(P - Pt_S)$, or the equivalent expression, $P(t_R - t_S t_R)$. By contrast, the tax effect in J_{RES} upon disposition of shares, on the portfolio investor's share of a loss L realized at the underlying corporate level, would be Lt_R (assuming sufficient domestic source income against which to set the loss). The decomposition of expected yield can be represented in the now familiar form as follows:

Table V-A: Decomposition of Yield with Portfolio Investment

	Profit (p)	Loss (l)
J_{RES}	$P(t_R - t_S t_R)$	lt_R
J_{SOURCE}	pt_S	0
Taxpayer	$P(1 - t_R + t_S t_R - t_S)$	$l(1 - t_R)$

This decomposition of expected yield indicates that the gain-loss differential in J_{RES} is $(t_R - t_S t_R) - t_R$, or simply $(-t_S t_R)$. And, as noted above, the rate of total divergence is still expressed by t_S. Thus the rates of divergence can be summarized as follows:

Table V-B: Rates of Divergence with Portfolio Investment

	Rate
Total Divergence	t_S
Public Divergence	$t_S t_R$
Private Divergence	$t_S - t_S t_R$

The key observation to draw from this analysis of portfolio investment, then, is that public divergence in portfolio investment is relatively less than public divergence in direct investment.

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F. Dynamic Effects

To this point in the Article, I have described divergence purely as a static phenomenon. That is, I have considered the rates of divergence based on the application of different tax instruments to possible realized gains and realized losses. The rate of divergence, however, may well have incentive effects on how investors choose to allocate their capital, which will in turn create new realized gains and losses. Thus, in a dynamic setting, divergence may create feedback effects. I consider here the effect such dynamic considerations should have on the analysis. It is useful to situate that question within the contours of the extensive literature on tax and risk.

In their classic paper on the relation between taxation and risk-taking, Professors Domar and Musgrave set out to answer a relatively specific question: what degree of loss offsets ought the income tax provide? The answer, they claimed, was that a proportional income tax should provide full loss offsets because such an approach will best encourage an increase in aggregate (i.e., public plus private) risk-taking.[47] The paper thus countered the conventional wisdom that an income tax, by reducing the return to risk bearing, would make risk bearing less desirable to investors.[48]

Domar and Musgrave cast their basic argument within the framework of the definitions of yield and risk described above. In a system with full loss offsets, the effect of the income tax is to de-

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[47] Domar & Musgrave, supra note 5, at 392.

[48] The normative assumption is that an increase in aggregate risk-taking is a good thing. See id. at 391 ("There is no question that increased risk-taking . . . is highly desirable (except during acute boom conditions) and that therefore a higher degree of loss deduction is of vital importance."). That assumption may well have been unproblematic at the time Domar and Musgrave wrote. Although it has become commonplace to bemoan the astonishingly low levels of personal savings witnessed today in the United States, it was not always so. Toward the end of World War II, with the Great Depression still in recent memory, the country faced a rather different problem—the prospect of hoarding. In that context, some economists harbored the concern that upon war's end, individuals and firms might be unwilling to stake their capital on the types of risky ventures that would drive sufficient growth in the economy. Steven A. Bank, The Dividend Divide in Anglo-American Corporate Taxation, 30 J. Corp. L. 1, 22–23 (2004) (citing a memorandum prepared for Roosevelt's presidential run that blamed "corporate hoarding," that is, the "unreasonable accumulation of corporate profits" not distributed to stockholders, as "upset[ting] the balance of production and consumption" and contributing to both the stock market crash and the Great Depression).

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crease *y* (for each positive return the government claims a portion of the return equal to tax rate *t*) but with an equal effect on *l* (for each possible negative return the government bears a portion of the loss equal to tax rate *t*). Thus the overall yield decreases but the yield per unit risk remains constant, since *y* and *l* have been reduced proportionately.[49] Because the taxpayer has a reduced yield after the tax, there will be an incentive to recoup that reduction by undertaking additional risky investment. That is, there is an income effect from the income tax that encourages additional risk-taking.[50] On the other hand, because the yield per unit risk remains constant there is no incentive to shift from riskier investments to less risky ones. That is, a system with full loss offsets produces no substitution effect at all.

Importantly, for purposes of the current exposition, Domar and Musgrave did not claim that the income effect will result in the taxpayer returning to the pre-tax level of risk bearing; rather, the claim was simply that private risk-taking increases somewhat by virtue of the income tax with full loss offsets. Since the risk that would be borne in the absence of the tax is simply split between the private and public sectors under the income tax, the effect of the increase in private risk-taking, however small, must be to increase aggregate private and public risk-taking.[51]

A rich literature, both in public finance and tax, has followed on this classic analysis of the topic. There are many twists and turns in the scholarship, but two points of contention arise repeatedly.

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[49] See Domar & Musgrave, supra note 5, at 390.

[50] The assumption is that the taxpayer has additional funds available for investment—either cash or other liquid investments that can be moved into riskier investments—or the ability to borrow. This assumption regarding liquidity and credit constraints plays a crucial role in current debates.

[51] By contrast, the results in a system with either partial loss offsets or no loss offsets are theoretically indeterminate. One should still witness an income effect, but an offsetting substitution effect will occur because the yield per unit risk necessarily decreases. See Domar & Musgrave, supra note 5, at 390–91. Note that the cases of no loss offsets and partial loss offsets are instances where the gain-loss ratio is greater than one, and the case of full loss offsets involves a gain-loss ratio of exactly one. Technically, another possibility exists—the case in which the government treats losses *more* favorably than gains, which involves a gain-loss ratio of less than one. Domar and Musgrave do not discuss it in their paper, but this case does describe certain areas of taxation. See Schizer, supra note 5, at 1908–10 (describing how derivatives can be used to push the gain-loss ratio below one).

First, and related to the question that Domar and Musgrave addressed directly, how do taxpayers adjust the riskiness of their investments in the face of an income tax with a given structure? Second, how does the government adjust its actions in the face of the riskiness inherent in its tax revenues?

Domar and Musgrave, who undertake a partial equilibrium analysis, essentially collapse these two issues. That is, having shown an increase in private risk-taking, they conclude that aggregate risk must increase. But the government's actions are important in a number of ways. First, the way in which the government disperses the risk inherent in tax revenues may well have feedback effects on the decisions made in the private sector. Second, the government could adjust its own portfolio to counteract the effects of the riskiness in its tax revenues. Subsequent scholarship has addressed these issues in general equilibrium models, with varying implications for the basic Domar and Musgrave conclusion regarding the likely increase in aggregate risk-taking.[52]

In this Article, I do not take a position on which of these models best captures the likely effects under a particular tax system. Thus I remain agnostic about whether any particular tax system increases, decreases, or leaves unaffected private risk or aggregate risk. The point I make here, instead, is that there is no reason to think that the dynamic effects, whatever they might be in the closed economy setting, require a different analytical framework when carried over to the open economy context.

Although it is the topic of some dispute, it is plausible that alterations in the gain-loss differential in the closed economy setting can have some impact on the level of risk-taking that taxpayers undertake as compared to the situation where there is no income tax. In the wholly domestic setting, of course, the gain-loss differential is simply a function of how the government taxes gains and losses. In the open economy context, however, differential tax rates across jurisdictions can also give rise to alterations in gain-loss differentials.

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[52] See, e.g., Bulow & Summers, supra note 5, at 22–25; Gordon, supra note 5, at 5–6; Kaplow, supra note 5, at 794–97; Michael P. Devereux, Taxing Risky Investment (Ctr. for Econ. Pol'y Research, Discussion Paper No. 4053, 2003); James R. Hines, Uncertain Tax Revenue and Taxation of Risky Assets (John M. Olin Program for the Study of Econ. Org. and Pub. Pol'y, Discussion Paper No. 69, 1991).

One way to see the point vividly is to examine the interaction of two tax systems which have different tax rates, but where each of the jurisdictions maintains a gain-loss differential of zero (i.e., identical tax treatment of gains and losses). For example, suppose the residence jurisdiction applies a credit method and the source jurisdiction applies a higher tax rate than the residence jurisdiction. Although the gain-loss differential would be zero on a domestic investment, the overall gain-loss differential on a foreign investment (i.e., taking account of the taxes in both jurisdictions) would be something greater than zero. To the extent that variations in the gain-loss differential in the wholly domestic setting produce different incentives regarding risk-taking, it is plausible to expect that similar effects would be observed in the open economy scenario. The only difference is that, in the open economy setting, one would observe both shifts in the amount of risk undertaken and locational effects.

Dynamic effects on divergence, then, can be captured under the same specifications that apply in the closed economy context. If the incentives of individual taxpayers depend upon features such as the gain-loss differential and the degree to which the government can absorb additional idiosyncratic risk that was not diversified in the private capital markets, then it should not matter to the taxpayer whether it is operating in the open or closed economy context. The taxpayer's incentives may well depend upon the actions of the sovereign, but why should the taxpayer care about which sovereign is collecting taxes or taking on some portion of the risk through the provision of loss offsets? Put another way, the taxpayer should be indifferent between the cases in which the gain-loss differential is the function of one jurisdiction's tax system and the cases in which it is the function of multiple jurisdictions' tax systems. Rather, the taxpayer should simply aggregate all of the possible tax consequences in the relevant jurisdictions. Incentive effects can be captured by the same analyses that would apply to closed economy contexts where the government treats gains and losses differently.

II. QUANTIFYING DIVERGENCE

The analysis so far has made it possible to compare, in an abstract way, the different rates of total divergence, public divergence, and private divergence that one can expect to witness under

different tax systems and transactional structures. But what exactly is the meaning of these differential rates, as applied to real-world capital flows? The first task here is to identify the proper base to which to apply the rates of divergence identified in the preceding analysis.

My approach in analyzing rates of divergence has been to look at expected yields, as decomposed into the relevant positive and negative components. This is a particularly useful approach because the phenomenon I seek to describe relates to the differential treatments of results from a risky investment, and the ex ante perspective allows one to specify the results for the full range of possible outcomes. When we apply this framework to real-world capital flows, however, there is a problem. We do not observe ex ante expected yields. Rather, we observe actual realized losses and actual realized profits.

In trying to measure the actual divergence that arises, then, we must examine the situation ex post. On an ex post basis, we are likely to observe both realized gains and realized losses. This raises the question whether one ought to apply the rate of divergence to the gains or the losses. As a purely analytical matter, there is no reason to prefer one base to the other. The rate of divergence, as I have defined it, captures the spread between the tax rate for gains and the tax rate for losses. Removing divergence means reducing that spread to zero. The rate of divergence is a measure of how much the source jurisdiction would have to alter its tax rates in order to bring the taxation of upside and downside back into alignment. Thus, the quantity derived by applying the rate of divergence to realized gains is that amount by which the source jurisdiction would have to reduce its taxation of such gains in order to eliminate the divergence. Conversely, the quantity derived by applying the rate of divergence to realized losses is that amount by which the source jurisdiction would have to increase its taxation of such losses (i.e., provide greater loss offsets) to eliminate the divergence.

The base I choose to analyze in this Part is the amount of realized foreign losses for which the source jurisdiction gives no loss offsets. This is also the same as net foreign loss in a given jurisdiction, assuming, as I do throughout, that there is no refundability of net losses. The reason I look to net realized losses, rather than net

realized profits, is to tailor the quantitative analysis to the norma-
tive claims that will follow. My goal is that the amount I derive in
this Section, though surely inexact, will stand as a measure of the
normative defect arising from divergence. As I argue below, I lo-
cate the normative failing of current substantive law in the source
jurisdiction's taxation of losses—not its taxation of gains. The ar-
gument will be that the source jurisdiction should give greater loss
offsets, not that it should curtail its taxation of gains. Thus, the ap-
propriate base to which the rate of divergence should be applied is
the amount of realized losses.[53]

Shifting the focus to a retrospective analysis of realized losses al-
lows one to describe divergence in terms of an actual dollar
amount. For example, suppose that in a transactional structure
such as that described in the baseline case above, a U.S. corpora-
tion invests $1 million in a source jurisdiction that imposes a corpo-
rate tax at a rate of 30%. Suppose the U.S. corporation loses its en-
tire capital investment, resulting in a net loss of $1 million. As we
have seen, the rate of total divergence is t_s (as is the rate of public
divergence). Under the quantitative analysis proposed here, the
amount of divergence is $300,000 (i.e., 30% of $1 million). The in-
tuition underlying that claim is simply that the source jurisdiction
would have taxed a $1 million profit at 30%, taking $300,000 in
revenue.

Even from the ex post perspective, however, significant hurdles
remain in putting a dollar amount on the divergence that arises
from real world capital flows and investment experience. The basic
problem is that we do not have good data on the amount of net
foreign losses experienced by domestic taxpayers. One hurdle, as
the formal analysis above suggests, is that it is not sufficient simply
to identify the net foreign losses in a given tax period because such
losses might be offset for foreign purposes in a preceding or subse-

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[53] The justification for my approach is strongest where the source jurisdiction taxes
net losses at a zero rate (which is generally the case). Then, calculating the amount of
divergence based on realized gains would suggest that the source jurisdiction must
surrender all of its right to tax gains. In other words, the divergence would be re-
moved because the source jurisdiction would apply a zero rate to both gains and
losses. I certainly do not wish to defend the position that the entitlement to tax gains
on a source basis is itself suspect. The argument, rather, is that for a given level of
taxation of gains (which I take to be normatively defensible), the source jurisdiction
ought to eliminate divergence through modification of its rate on losses.

quent year through a foreign carryback or carryover mechanism. Even if there is an offset, however, so long as there is no interest adjustment in the carryforward rules, there is still divergence over the period of time until the loss has been absorbed.

One way to estimate the magnitude of realized foreign losses by U.S. companies is to examine the aggregate data published in the IRS Statistics of Income Bulletin.[54] In this publication the IRS aggregates data for the largest 7500 foreign corporations controlled by U.S. corporations with at least $500 million in assets. Of particular relevance here are two items of information. First, the IRS provides information on the aggregate current earnings and profits of those corporations that have positive current earnings and profits.[55] Second, the IRS provides information on the current earnings and profits, including deficits, for all of the controlled foreign corporations in the sample. By subtracting the second figure from the first, it is possible to calculate the total amount of current deficit earnings and profits for the sampled corporations in the relevant year. To illustrate, the Statistics of Income Bulletin indicates that the total amount of current earnings and profits of controlled foreign corporations (before taxes) in tax year 2000 was approximately $243 billion, and the amount of current earnings and profits less any deficits was approximately $208 billion.[56] This indicates that the total deficit earnings and profits must have been approximately $35 billion.[57] To move from this figure, which represents an aggregate

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[54] I am extremely grateful to Jim Hines for suggesting the following method of approximating net foreign losses.

[55] The phrase "earnings and profits" is a term of art in U.S. tax law. Its calculation is complicated, but in very rough terms, one may arrive at a corporation's earning and profits by beginning with taxable income and making numerous adjustments, with the resulting figure bearing a closer relation to economic income than to taxable income. See generally 1 Boris I. Bittker & James S. Eustice, Federal Income Taxation of Corporations and Shareholders ¶ 8.03 (7th ed. 2002). In the international setting, foreign corporations that qualify as "controlled foreign corporations" under U.S. law are required to calculate earnings and profits, as the account plays an important role in the calculation of U.S. tax liability in a number of ways. For a discussion of the import of earnings and profits in the international setting, see generally Kuntz & Peroni, supra note 28, ¶ B3.03.

[56] See Internal Revenue Service, Statistics of Income Bulletin (Summer 2004) at 225, cols. 6 & 9, available at http://www.irs.gov/pub/irs-soi/00cfcart.pdf.

[57] By way of comparison, the deficit earnings and profits amounts for the two preceding periods of data collection were approximately $27 billion (1998) and $16 billion (1996). See Internal Revenue Service, Statistics of Income Bulletin (Winter 2002–

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amount of net losses, to the total amount of divergence, one must apply the appropriate tax rate. As explained above, the total rate of divergence is captured by the source country tax rate, t_s. This aggregate data includes controlled foreign corporations that are incorporated in many different foreign jurisdictions. Deriving the actual amount of divergence would require disaggregating the loss data on a per-country basis and applying the relevant tax rate for each country. For present purposes, I will take the simple, and obviously rather crude, step of using the average corporate tax rate for OECD countries, which for the relevant year was approximately 30.7%.[58] Applying this rate suggests an estimated amount of divergence here of approximately $10.6 billion.

This analysis is subject to a number of important limitations and caveats. First, as just noted, the estimated rate is speculative. Second, I use deficit earnings and profits to quantify the relevant losses. The problem with this approach is that earnings and profits, as reported in the Statistics of Income Bulletin, is a U.S. concept, defined under U.S. law. The quantity that should be identified, however, is the foreign loss, as defined by the tax law of the source jurisdiction. In other words, divergence arises by virtue of the source jurisdiction's failure to bear a portion of realized losses, notwithstanding the fact that the source jurisdiction would have taxed a portion of realized gains. Because the realized gains would have been calculated under the tax law of the source jurisdiction, it would be more appropriate to quantify the loss under that law as well. Third, simply examining foreign losses for a given year, under U.S. principles, does not tell us how much of these losses might be set off against source country income in other years. A complete measure of divergence would take into account loss offsets given in other years (as well as time value considerations).

2003) at 59, cols. 6 & 9, available at http://www.irs.gov/pub/irs-soi/98cfcart.pdf; Internal Revenue Service, Statistics of Income Bulletin (Spring 2001) at 144, cols. 7 & 10, available at http://www.irs.gov/pub/irs-soi/96cfcart.pdf.

[58] Average corporate income tax rates for OECD countries in the years 2000–2005 are available at http://www.oecd.org/dataoecd/26/56/33717459.xls. Note that this is a non-weighted average. This methodology is crude but not crazy. For the year in issue, over 80% of the reported foreign income arose in OECD jurisdictions. Moreover, approximately 38% of the income earned in OECD countries arose in four jurisdictions (Canada, France, Germany, and Japan), all of which had corporate tax rates well in excess of the OECD average (ranging from 40.9% to 54%).

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These points suggest that the amount of divergence I derive here overstates the actual amount. But other factors point in the opposite direction. For example, this amount refers only to the top 7500 controlled foreign corporations for which parent companies have assets of at least $500 million. Thus it does not take into account any of the divergence that arises through foreign direct investment in branch form, through portfolio investment, or through foreign corporations controlled by smaller U.S. interests. Arguably, the limitation in the data to corporations with a fairly large asset base is particularly important, as it might be expected that less established, smaller enterprises might be more likely to make losses upon entering foreign markets.

In this Part, I have attempted to offer a rough estimate of the magnitude of divergence. The point of this exercise is not to pin an actual number on divergence that could withstand rigorous statistical analysis (we lack the data to do so, in any event) but rather to suggest something about the magnitude of the phenomenon. My claim here is a relatively modest one: if the amount of divergence, given real-world capital flows, is in the billions, then it would seem large enough to merit more attention than it has received to date—which is none. This raises some interesting questions of political economy, to which I will return in Part IV. First, however, I must undertake a general normative analysis of the distributive effects of divergence.

III. DIVERGENCE, REDISTRIBUTION, AND TAXATION AT SOURCE

My normative claim in this Part is that the cross-border distributive consequences of divergence conflict with the jurisdictional entitlement to tax income on the basis of its source. As we will see, the result is a tax system that imposes burdens on residence jurisdiction taxpayers that arguably lack political legitimacy.

Divergence arises because source jurisdictions do not bear losses in a way that is symmetrical with their jurisdictional entitlement to tax profits. Existing commentary on international tax policy sheds scant light on this asymmetry. The problem is that scholars tend to focus discussion on the division of the right to tax profits but pay

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very little attention to the question of how jurisdictions ought to divide the losses from cross-border economic activity.[59]

The best explanation for the lopsided nature of this commentary is that, unlike in the case of profits, generally no prospect of loss duplication exists.[60] Overlapping jurisdictional entitlements to tax render the possibility of double taxation of profits omnipresent. By contrast, double loss offsets generally do not arise because jurisdictions do not provide for the refundability of losses. At most, a taxpayer may benefit once from a net foreign loss to the extent that the residence jurisdiction permits the loss to be used to offset domestic source income. Viewed through the general international framework of ameliorating the detrimental effects of overlapping taxing jurisdictions, it might appear that there is simply no issue to address. I argue instead that divergence results in distributional effects that should occupy a central part in setting international tax policy.

Divergence clearly produces distributional effects across jurisdictions. That fact alone, however, carries no normative weight. To the contrary, distributional effects across jurisdictions are commonplace and widely accepted as normatively unproblematic in the area of international taxation. This follows from the conjunction of factor movements across borders and the generally accepted right

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[59] One notable exception is the commentary surrounding tax policy in the European Union. See, e.g., Ben Terra & Peter Wattel, European Tax Law 655–73 (4th ed. 2005). But there, the commentary focuses on the creation of an integrated market and the problems that arise from the perspective of the *taxpayer* if domestic losses are treated differently from foreign losses. The foundational question about which jurisdiction ought to bear losses as a matter of jurisdictional entitlement (or obligation) is still lacking from the discussion.

[60] I distinguish here between the duplication of net losses and the duplication of deductions, as might occur where taxpayers engage in so-called international tax arbitrage transactions. A number of commentators have addressed the issue of international tax arbitrage in recent work. See, e.g., Mitchell A. Kane, Strategy and Cooperation in National Responses to International Tax Arbitrage, 53 Emory L.J. 89 (2004); H. David Rosenbloom, International Tax Arbitrage and the "International Tax System," 53 Tax L. Rev. 137 (2000). As long as the taxpayer engaging in arbitrage has net income in the relevant jurisdictions, however, the duplication of deductions can be analyzed within the typical framework of division of the rights to tax income. The only difference is that the question becomes one of international double non-taxation as opposed to international double taxation. The issue I address here is quite different, as it involves the case of a real economic loss and the question of how that loss is to be spread across jurisdictions.

of jurisdictions to tax on a territorial or source basis. Put simply, where a resident of one jurisdiction deploys capital abroad and the host country applies its source-based taxing jurisdiction, distributional effects necessarily follow.

These pervasive distributional effects, though, should not obscure a rather different point. Specifically, transnational redistributive consequences of international tax instruments, other than the direct consequences of the conjunction of factor movements and the exercise of the entitlement of source-based taxation, stand in need of some affirmative justification.[61] That claim is a matter of political legitimacy, especially in democratic societies. A redistributive tax system should function either at the level of the nation-state or at the level of sub-national units, so long as these are the relevant political units that have responsive democratic law-making institutions.

Source basis taxation, by definition, is not premised upon some political connection between the state and the owner of capital deployed therein.[62] Rather, it must be justified on other grounds. Although some dispute over the theoretical justification for the source entitlement remains, it is typically grounded either upon a theory of benefits or economic rents.[63] Under a benefits theory, the host country's claim to tax a portion of the foreign person's income arises by virtue of the provision of local benefits or services to the taxpayer (like police and fire protection or the maintenance of a court system for the adjudication of contract disputes). Under an

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[61] This claim should be distinguished from the very different claim that relative priority of overlapping source and residence entitlements should be determined with respect to the distributive consequences. See, e.g., Reuven S. Avi-Yonah, Globalization, Tax Competition, and the Fiscal Crisis of the Welfare State, 113 Harv. L. Rev. 1573, 1649–50 (2000).

[62] Taxation on the basis of residence, by contrast, is generally premised at least in part upon some political connection between the taxpayer and the state. See Peggy Musgrave, Interjurisdictional Coordination of Taxes on Capital Income, *in* Tax Coordination in the European Community 197 (Sijbren Cnossen ed., 1987); Peggy Musgrave, Consumption Tax Proposals in an International Setting, 54 Tax L. Rev. 77, 79–80 (2000). That connection is tenuous in the case of corporate taxpayers with widely dispersed ownership of capital stock, and residence-based taxation must be defended on some other basis.

[63] For a comprehensive discussion of the normative basis of the source entitlement, see Nancy H. Kaufman, Fairness and the Taxation of International Income, 29 Law & Pol'y Int'l Bus. 145, 183–88 (1998).

economic rents theory, the taxing claim is grounded on the view that the taxpayer enjoys pure economic profits due in part, at least, to the fact that the source country possesses certain attributes (like natural resources or proximity to markets).[64] It is not difficult to see how these explanations of the jurisdictional entitlement apply to the profitable economic activity of a foreign person: the profitable enterprise has realized a positive private return in part because a portion of its factor inputs have been funded by the source jurisdiction (benefits theory) or because it captures some component that represents a return to attributes of the source jurisdiction (economic rents theory).

By contrast, these theories of the source entitlement have not been taken as relevant to the case of the foreign taxpayer that enters a local jurisdiction and fails to make a profit.[65] The universally accepted position is that the source entitlement relates to the ability to tax positive returns but surely does not create any obligation to reimburse taxpayers for negative ones. Under either a benefits or rents rationale, most people understand the features that ground the entitlement to tax as contributing to the private return, which is subject to source country tax, but most typically do not see those very same features as causing a portion of a taxpayer's losses, should the taxpayer fail to make a profit. Nobody, therefore, suggests that a host jurisdiction incurs some type of obligation to compensate a foreign person through its tax system because the jurisdiction failed to provide greater benefits, or possess more valuable resources, than it in fact did. The interesting question, though, is whether this commitment is grounded in some aspect of the source entitlement or, alternatively, whether it is simply an artifact of the pervasive commitment wholly within the domestic context not to refund net losses through the tax system. My claim here is that it is the latter explanation rather than the former.

A simple thought experiment demonstrates the point. Suppose that all jurisdictions in the world did in fact impose an income tax with full refundability of losses. If that were the state of affairs, one

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[64] Musgrave, Consumption Tax Proposals, supra note 62, at 79.

[65] Commentators generally ignore the question of losses altogether when discussing international tax jurisdictional entitlements. In the one instance where I have found specific mention of the issue, the author states without qualification, that losses are not relevant. See Kaufman, supra note 63, at 191 n.236.

would doubtless perceive a need to address the "problem" of double loss refundability. Many of the standard problems of international double taxation would replicate themselves, though in inverse form. For example, if a taxpayer could double losses on a foreign investment, as compared to a domestic investment, then there would be a distortion toward undertaking economically identical (and risky) foreign investments. Arguably, economic efficiency requires that the taxpayer be allowed to claim only the refundable loss available under domestic rules. This, of course, is the twin of capital export neutrality, as applied to refundable losses. Similarly, one might argue that economic efficiency requires that the taxpayer be able to claim only the refundable loss in the source jurisdiction—the twin of capital import neutrality, as applied to refundable losses. It would be surprising, though, if anybody seriously argued that taxpayers should get to claim duplicate refundable losses. Regardless of the level of loss that should be refundable from an efficiency perspective, the question of which jurisdiction bears the cost of the loss would remain. The answer provided would likely be that, with respect to a risky investment, the same jurisdiction that stood to gain from taxing the upside on a profitable investment should bear the cost of the refundable loss on the downside. That is, in a world with universal full refundability of losses, the likely understanding of the international tax jurisdictional entitlements would be to eliminate the phenomenon of divergence.

    If my proposed analysis of this thought experiment is correct, then this tells us something important, not just about a hypothetical world with full refundability of losses, but also about the world we actually inhabit. Specifically, it is the source entitlement itself—as currently interpreted—that can be understood as the normative principle that would drive the requirement for the source jurisdiction to bear the cost of refundable losses. For reasons discussed above, this might seem odd at first blush. That is, it seems strange to think that tax consequences arise in connection with benefits or economic rents where the taxpayer is in fact not profitable. But this is only odd if one thinks about the situation ex post. If we analyze the source entitlement with respect to a risky investment ex ante, then it becomes apparent that the taxpayer's expected return is dependent in part on features such as the provision of benefits and

resources that may, but need not, produce economic rents. From this perspective, nothing in the source entitlement dictates treating profits differently from losses. Quite to the contrary, other things equal, a proper understanding of the source entitlement should treat profits and losses symmetrically. The source jurisdiction should bear the downside risk that accompanies the upside potential. It is simply the (greater) commitment to nonrefundability in the domestic sphere that prevents the implementation of that norm.

The manifestation of the commitment to nonrefundability in the international context through the phenomenon of divergence is problematic because the result is the assertion of source country taxing jurisdiction that extends beyond what should be permitted under a proper and full interpretation of the source entitlement. This raises problems of political legitimacy for the resulting system of taxation. We have seen how divergence involves a severance of a portion of upside and downside returns across jurisdictions. That state of affairs is tantamount to an implicit transfer of funds from source to residence jurisdictions, as if source jurisdictions were to absorb both upside and downside but then receive explicit cash compensatory payments from residence jurisdictions for the cost of loss offsets. The difference, of course, is that although such explicit compensatory payments would be borne by residence jurisdiction taxpayers, the payments would run through the residence jurisdiction political process. Divergence is different. The implicit transfer of funds under divergence is a function of source jurisdiction law. The cost is still borne by residence jurisdiction taxpayers, but they generally have no voice in the source jurisdiction political process.

The political illegitimacy I describe here is most readily apparent in the case of public divergence because of the ways in which losses borne by the residence jurisdiction fisc are likely to be spread across individual taxpayers. It is likely that the cost of such losses is borne to a large extent by residence jurisdiction taxpayers. That will be the case where the government takes revenue needs as fixed and must raise taxes on the citizenry to offset the cost of losses. It will also be the case where the government allows its expenditure policy to fluctuate. Because local expenditures will drown out non-local ones, it is once again the local citizenry that will bear the bulk of the cost of the loss offsets. If divergence, the severance of a por-

tion of upside and downside returns, is tantamount to an implicit transfer of funds from source to residence jurisdictions, then with public divergence the cost of that implicit transfer payment is borne by the public at large. But much of the public at large will have no political connection with the source jurisdiction whatsoever. Recall from the analysis in Part I that one of the key conclusions is that total divergence is a function of source jurisdiction tax policy. Thus the democratic processes in residence jurisdictions, whatever they may be, do not cure the democratic defect.

The political legitimacy of private divergence may seem on firmer ground because losses are not being spread across the general public through the tax system. Private divergence, however, raises its own set of problems. As an initial matter, voluntary deployment of capital in the source jurisdiction does not in itself legitimize private divergence. That is, one might have thought that any defect is cured by the fact that a residence jurisdiction taxpayer chooses to invest capital in the source jurisdiction with knowledge that the source jurisdiction will not refund any part of a net loss. The voluntary nature of investment, however, does not remove the limited nature of the source jurisdiction entitlement, which remains rooted in a notion of territoriality. The voluntary deployment of capital tells us who the source jurisdiction may tax—but it does not tell us what income that jurisdiction may tax. That question remains very much wedded to an analysis of an economic nexus between the source jurisdiction's territory and the taxpayer's gain (and, I would argue, the taxpayer's loss).

One observes this point in a mundane way in the treaty context through the limited nature of the source jurisdiction's ability to tax branch business profits of a foreign enterprise. Thus, simply because the foreign enterprise becomes subject to source jurisdiction tax, by virtue of creating a permanent establishment therein, the source country is not permitted to tax all of the profits of the foreign enterprise. Rather, it only permits taxation of those profits that are attributable to the permanent establishment.[66] One can imagine more fanciful examples. Suppose that the United Kingdom took the position that all modern English language literature owes some debt to Shakespeare and that on this basis it would assert

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[66] See, e.g., OECD Model Tax Convention, supra note 17, arts. 5, 7.

"source" basis jurisdiction to tax any royalties on English language publications in the United States. Putting aside administrative concerns, this would be an illegitimate extension of source basis jurisdiction that would lack political legitimacy.

This analysis may seem counterintuitive. Surely there is no political defect in a wholly domestic system that declines to offer full loss offsets. So, how can there be a problem simply because the loss arises on a foreign investment? The answer to that question is that the normative underpinnings of source- and residence-based taxation are very different. Legitimacy of instruments when taxation is predicated upon residence thus need not imply legitimacy where it is predicated upon source. A wholly domestic system's failure to provide full loss offsets is not problematic because the party that bears the loss takes part in the political process that produces the applicable tax rule. In the open economy setting, that may no longer be the case. To be sure, the party that bears the loss associated with private divergence may have established an economic connection with the source jurisdiction (sufficient to ground the taxation of profits), but the question that remains is whether there is a sufficient political connection to legitimize taxation that is beyond, I have argued above, what can be justified strictly in terms of economic nexus.

This question presents immediate complications because the analysis throughout has assumed investment by corporate taxpayers. How ought one determine whether a tax on a legal entity, such as a corporation, has political legitimacy? One might reject such a query as meaningless, given that corporations are legal persons only and do not vote. However, that answer is too facile. Jurisdictions often tax resident corporations more expansively than non-resident corporations. Specifically, jurisdictions may tax resident corporations on income that lacks an economic nexus with the sovereign's territory.[67] The political ground for such authority arguably

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[67] In jurisdictions, such as the United States, which adopt worldwide taxation, this follows as a matter of course. Resident corporations will generally be taxed on income regardless of source. Non-resident corporations will be taxed on a much narrower base. Territorial jurisdictions also typically draw distinctions between resident and non-resident corporations. That is, territorial jurisdictions are usually not strictly territorial and may well tax resident corporations on certain classes of foreign source income. See supra note 21 and accompanying text.

rests in one of two places. First, it is possible to focus attention on the corporate taxpayer itself. Although corporations do not vote, they may participate in the political process in other ways, particularly through lobbying. Second, it is possible to focus on the actual voting rights of the various individuals who are stakeholders in the corporation.

Admittedly, focusing on either corporations or individuals in this fashion is likely to match real world instruments regarding definitions of corporate residence for tax purposes in only the most imperfect of ways. Jurisdictions define corporate residence for tax purposes through fairly artificial means, such as an examination of the place of incorporation or the place of effective management and control. Such tests will line up only inexactly with the political influence of corporations and the voting capacity of stakeholders. An entity incorporated in the United States may exert political influence in other countries and vice versa. Or, an entity incorporated in the United States may well have stakeholders who are citizens of, and thus vote in, many jurisdictions. Moreover, the burden of corporate income taxation may fall in part on parties who are not stakeholders at all.[68] But all of this is just to say that defining corporate residence for tax purposes is difficult and the relevant political ties are likely to be inexact. It does not mean that political ties are absent. In other words, however inexact the definitions of corporate residence for tax purposes, it would seem that corporations defined as resident in a given jurisdiction will often have a greater political tie to that jurisdiction (either through corporate lobbying or through stakeholder voting) than to others. Conversely, nonresident corporations are likely to have fewer political ties. Crucially, the source jurisdiction itself, in classifying the corporation as nonresident, has already made the determination that corporate attributes are insufficient to tax the entity on other than a territorial basis. Thus, to the extent that definitions of corporate residence do indeed track political ties with the taxing jurisdiction, we can see why private divergence does implicate an issue of political legitimacy. The problems are not as immediate, or clear, as

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[68] See Arnold C. Harberger, The Incidence of the Corporation Income Tax, 70 J. Pol. Econ. 215, 219 (1962).

those that arise with public divergence. But neither are the distributional consequences of private divergence without problems.

IV. THE POLITICAL ECONOMY OF DIVERGENCE

If divergence implicates normatively problematic distributive effects, as suggested above, then two natural questions of political economy arise. First, as an historical matter, why has there been no discussion about, or attempt to remove, these effects? Second, what is the likelihood going forward that the phenomenon will be addressed?

A. The Historical Inattention to Divergence

Divergence presents something of a puzzle of political economy. I estimated above (admittedly in a back of the envelope fashion) that divergence arising from outbound investment from the United States in 2000 was approximately $10.6 billion. To put that number in perspective, in 2000, the total foreign aid budget of the United States was approximately $16.6 billion.[69] Removing the military aid ($4.9 billion) from that figure drops the total number to approximately $11.7 billion.[70] This suggests that the distributive effects from divergence very well may be on the same order of magnitude as the entire U.S. non-military foreign aid budget. Given the ire that the foreign aid budget seems to raise, one might well inquire into the absence of similar sentiment regarding divergence.[71] I consider below two possible explanations but ultimately conclude that these explanations are at best partial ones.

One possible explanation for ignoring divergence is that even where a nation suffers a revenue drain on outbound investment, the phenomenon nonetheless benefits that nation on a net basis. An important characteristic of divergence is that it benefits capital importers at the expense of capital exporters. In a world of open

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[69] See Cong. Research Serv., Foreign Aid: An Introductory Overview of U.S. Programs and Policy 31 (2005).

[70] Id.

[71] See, e.g., Gallup Poll News Serv., Verbatim Responses: What 1,003 Americans Would Say to President Bush, Apr. 28, 2005 (including responses such as, "Don't give foreign countries so much money," "take care of our own first," and "[f]oreign aid, stop all money, anybody who needs anything, we build it, ship it, that is the way we keep the money for ourselves, drop the stuff on their docks, but no money").

capital markets, most countries, of course, function simultaneously as both capital importers and capital exporters. Consider the case of the United States. My rough estimate for divergence above considers the phenomenon strictly from the perspective of the United States as capital exporter. What about the flipside of the coin: might the United States not gain at least as much as is sacrificed under current international tax instruments?

At least as a purely historical matter, this is a poor explanation for why the United States would have not objected to divergence. Initially, note that for the bulk of the twentieth century the United States functioned as a net capital exporter and thus would likely have been a net loser from the phenomenon. It is only in more recent years that the United States has shifted from a net capital exporter to a net capital importer. But even this recent shift does not necessarily rationalize inattention to the phenomenon. Note that although the overall effect of divergence will depend on net capital flows, it is not strictly determined by them. Rather, divergence is a phenomenon that arises because of the possibility of both profits and losses arising. Thus one must look not merely at net capital flows but also at the riskiness of the investments in which the capital is deployed. A jurisdiction might be a net capital importer, but to the extent that the importation of capital takes the form of relatively risk-less investment, accompanied by substantial export of capital into risky ventures, then the jurisdiction may not, on the whole, benefit from the phenomenon of divergence. Once one factors in the relative riskiness of imported and exported capital it is not clear that the United States is a net winner from the phenomenon at present. There are two factors that suggest the average riskiness of capital exported from the United States is higher than the average riskiness of imported capital. First, the United States imports a substantial amount of essentially risk-less capital in the form of U.S. government securities. Second, exported capital from the United States is more likely to take the form of direct investment than is imported capital, which is more likely to take the form of portfolio investment. One interpretation of that disparity is that the exported capital is more likely to be deployed in riskier ventures, over which investors prefer to retain control, since highly risky ventures may have difficulty attracting capital from foreign investors in portfolio form.

A quick numerical sample may be useful to demonstrate these points. For the most recent data available (2003), the value of U.S. capital owned by private foreign interests exceeded foreign capital owned by private U.S. interests by approximately $1.4 trillion.[72] Of that excess, however, approximately $542 billion was held in the form of essentially risk-less U.S. government securities.[73] More-over, the amount of portfolio investment imported exceeded the amount exported by approximately $917 billion.[74] I do not, of course, mean to suggest that the imported portfolio capital is as risk-less as the U.S. government securities, only that portfolio flows may well represent underlying capital investments that are less risky than direct investment flows. Once one takes account of the relative riskiness of capital flows in and out of the country it becomes ambiguous whether the United States, as a net capital importer, benefits from divergence. Even if it does, that is an extremely recent development in the history of the country.

A second possibility for the inattention to the distributive consequences of divergence is that the nations getting the short end of the stick (i.e., the net capital exporters, adjusting for risk) actually view the resulting distributive consequences to be in their interest. At least from the perspective the United States, there is an interesting historical case to be made for this point. At the time of the birth of the modern international tax system, it was an undecided question whether the source or the residence jurisdiction would have the primary right to tax profits. For example, Great Britain favored the position that the residence jurisdiction should have the primary right to tax.[75] The United States, by contrast, favored the position that the source jurisdiction should have the primary right. That U.S. commitment was made manifest by the unilateral adoption of a foreign tax credit mechanism in 1918. That is, the United States ceded the primary right to tax U.S. businesses on foreign profits voluntarily. There are a number of reasons that have been offered to explain this largesse, but one of them is that the revenue

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[72] See U.S. Census Bureau, Statistical Abstract of the United States: 2004–2005, at 802 (2005).

[73] Id.

[74] Id.

[75] See Michael J. Graetz & Michael M. O'Hear, The "Original Intent" of U.S. International Taxation, 46 Duke L.J. 1021, 1041 (1996).

loss was actually in the overall interest of the United States.[76] Specifically, the voluntary granting of the foreign tax credit encouraged U.S. investment into Europe after World War I. This plausibly assisted with European repayment of war debts and remedied a balance of payments situation that severely restricted the ability of European countries to import U.S. goods.[77] In this historical context, the tolerance of divergence makes quite a bit of sense. Insisting that source jurisdictions bear the cost of loss offsets in a reciprocal fashion to taxation of gains would have simply undermined the overall objective of the foreign tax credit. The unilateral concession of taxing authority demonstrated, in part, an awareness that the European jurisdictions were not in a fiscal position to surrender a portion of their tax authority. Similarly, they would not have been well situated to bear the cost of removing divergence by offering relief for net losses of foreign businesses.

Whatever the merits of this explanation historically (I have found no evidence that the issue of losses was actually considered contemporaneously), it does not readily carry over to the present. The modern understanding of the source entitlement does not rely upon the strategic interests of residence jurisdictions. This can be readily seen in modern battles over the extent of source jurisdiction entitlement to new technologies. For example, the United States, as an expected net exporter of e-commerce, has generally favored rules that would further the interest of residence jurisdictions. Jurisdictions that anticipate being net importers have, not surprisingly, taken the contrary position.[78]

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[76] Id. at 1045–53.

[77] Id. at 1051–52.

[78] Dep't of the Treasury, Office of Tax Policy, Selected Tax Policy Implications of Global Electronic Commerce (1996), available at http://www.treas.gov/offices/tax-policy/library/internet.txt (describing the approach of the United States); U.N. Conference on Trade & Dev. [UNCTAD], Tariffs, Taxes and Electronic Commerce: Revenue Implications for Developing Countries, Policy Issues in International Trade and Commodities Study Series, U.N. Doc. UNCTAD/ITCD/TAB/5 at 11(2000) (prepared by Susanne Teltscher), available at http://r0.unctad.org/ecommerce/docs/tax_ecom.pdf ("The United States as a net exporter of e-commerce would benefit from an origin-based tax, while it may further erode the tax base in e-commerce-importing countries.").

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B. Removing Divergence Going Forward

Even if the distributive effects of divergence have not been fully absorbed in existing debates on tax policy, one might query about the prospects of eliminating such effects going forward. As stated above, I take the distributive consequences of divergence to be an artifact of domestic commitments. Strictly from the closed economy perspective there would appear to be a commitment to the ideal that net losses ought to be borne by the private sector rather than the public sector. This commitment derives its appeal without any need to reference the open economy setting and is embodied in the universal decision to reject refundability of losses. But once we move to the open economy setting, where there are factor movements across borders involving risky returns, the arguments presented above suggest that upside and downside risk should be conjoined in a single economy. Under the current patchwork of domestic and international taxing instruments, these two commitments cannot simultaneously be satisfied because the decision not to refund net losses necessarily shifts, in the open economy context, the loss back to the residence jurisdiction.

The obvious way to remove divergence is to realign upside and downside risk. If we assume continued primacy of source jurisdiction to tax business profits, then the implication is that the source jurisdiction would have to give full loss offsets. (A quick perusal of the tables in Part I will demonstrate that the effect will be to convert the source jurisdiction's gain-loss differential to zero, thereby removing all divergence.) Although a number of commentators have advanced arguments for full refundability, these suggestions have met with scholarly resistance and have never gained much political traction.[79] These debates have not taken account of the per-

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[79] For a discussion of arguments in favor of full refundability, see Lorence L. Bravenec & Donald R. Fraser, A Net Operating Loss Refundable Credit, 70 Proceedings of the Nat'l Tax Ass'n-Tax Inst. Am. 360 (1977); Mark Campisano & Roberta Romano, Recouping Losses: The Case for Full Offsets, 76 Nw. U. L. Rev. 709 (1981); Thomas N. Tarleau, Difficulties Faced by Taxpayer Trying to Take Advantage of a Loss Carryover, 4 J. Tax'n 91 (1956). But see Robert H. Scarborough, Risk, Diversification and the Design of Loss Limitations Under a Realization-Based Income Tax, 48 Tax L. Rev. 677 (1993) (arguing against full refundability of losses); Daniel L. Simmons, Net Operating Losses and Section 382: Searching for a Limitation on Loss Carryovers, 63 Tul. L. Rev. 1045 (1989) (same); Richard L. Bacon & Nicholas A. Tomasulo, Net Op-

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verse distributive consequences in the open economy setting that follow from the decision not to have refundability.[80] Perhaps divergence could bolster the previously advanced arguments for full refundability, but I am a political realist about these matters. Whatever the merits of full refundability in the domestic context, it is difficult to envision, to say the least, that any jurisdiction would offer such generous treatment in the absence of reciprocal concessions for its own taxpayers with respect to outbound investment. Even within the multilateral context, I consider the likelihood that considerations of divergence could tip the balance toward full refundability to be remote. Calls for full refundability in the wholly domestic setting will have difficulty gaining political traction because of the likely, if incorrect, view of the public that it is simply wrong for the government ever to subsidize losses with a refund check. That political complication, of course, becomes all the worse in the open economy context where the government becomes obligated to refund a portion of a loss to a foreign taxpayer. I suspect that the mere possibility of such refunds would likely doom any proposals for full refundability, even if reciprocal benefits were granted through multilateral discourse. The direct and complete elimination of divergence, then, is likely not on the table given competing distributive commitments in the wholly domestic sector. This leads directly to the final subject of this Article: how ought divergence to affect our thinking about tax policy?

V. POLICYMAKING IN A WORLD WITH DIVERGENCE

For the reasons just canvassed, I consider it unlikely that divergence will be removed through the adoption of full loss offsets by

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erating Loss and Credit Carryovers: The Search for Corporate Identity, 20 Tax Notes 835 (1983) (same).

[80] I have found only one source that even considers the international ramifications with respect to the decision to have refundable losses. See Technical Comm. on Bus. Tax, Dep't Fin., Report of the Technical Committee on Business Taxation 4.15 (1997), available at http://www.fin.gc.ca/toce/1998/brie_e.html. Interestingly, this report takes international factors to weigh *against* refundability, insofar as the concern would arise that multinationals would use debt financing to segregate interest expense in a jurisdiction providing refundability. While I acknowledge the potential concern, this problem is not insoluble. For example, rules requiring asset-based apportionment of interest expense taxpayers would check the ability of taxpayers to channel losses into particular jurisdictions in the manner feared.

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source jurisdictions. If that prediction is right, then the question becomes how the existence of divergence should inform policy debates. I consider below how divergence would figure into policy-making in five important areas: domestic loss offsets, subsidies, double tax relief, transfer pricing, and foreign aid.

A. Domestic Loss Offsets

Quite aside from considerations of international taxation, domestic interests often lobby, particularly during economic downswings, for more favorable treatment of losses. Such proposals typically occupy a middle ground between extant policy regarding losses and full refundability. There are many such possibilities. For example, a jurisdiction that sought to increase the tax value of the losses of domestic firms might extend carryback/carryover windows, liberalize rules regarding the alienability of losses, or offer an interest adjustment for loss carryovers.

Domestic policy debates on such matters have not taken account of the effects of divergence, however. One (likely unintended) consequence of unilaterally adopting such measures is a detrimental increase in the total level of divergence from that jurisdiction's perspective with respect to inbound capital investment. The reason is that, under treaty nondiscrimination rules, the jurisdiction generally cannot restrict the benefit of more generous loss offset provisions to local interests. Rather, the provisions must be available to benefit imported capital as well. This increases the downside that the jurisdiction absorbs on risky cross-border investment, without any offsetting concessions from the jurisdictions in which the capital originates.

As noted above, whenever a jurisdiction is both a capital exporter and a capital importer, it both benefits and loses from the distributive consequences of divergence. Unilateral provision of more generous loss offsets strips away some of the fiscal benefits of divergence when the jurisdiction acts as a capital importer, while leaving the total divergence from capital exports constant.[81]

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[81] Note, however, that the adoption of more generous domestic loss offsets will have the effect of converting some private divergence into public divergence, unless the jurisdiction restricts the more generous treatment to domestic source losses.

B. Subsidies

Divergence is problematic for the way in which its effects have not been appreciated in domestic attempts to influence, through tax policy, the level of risk-taking in the economy through subsidies. Although it is surely the case that an economy in which the owners of physical and human capital undertake some amount of financial risk is preferable to one in which they undertake none, determining the optimal amount of risk is no simple task. One possible answer to the question about what degree of aggregate risk-taking is optimal would simply refer to individual preferences regarding risk. Arguably, we maximize welfare when each taxpayer bears that level of risk that is in accord with the taxpayer's preferences. But governments often set tax policy in a way that is inconsistent with this assumption, actively seeking to augment the level of aggregate risk-taking. Familiar examples of such policy include research and development credits, investment tax credits, and accelerated depreciation. In one sense, this approach is inherently problematic because once one departs from the supposition that the optimal degree of risk-taking is simply a function of individual preferences regarding risk, we are left stranded without a beacon to tell us how much risk is the right amount. Still, I would offer two observations here.

First, it is at least theoretically coherent for the government to seek to increase welfare by augmenting aggregate risk-taking over and above the level indicated by private preferences. The argument here is the same as the standard argument for any subsidy implemented in order to capture a positive externality. That is, because the full social benefit of welfare enhancing allocations cannot be internalized under any plausible private property regime, the subsidy provides the private investor with the incentive to make the welfare-enhancing allocation. Distributional concerns, at least in theory, can be dealt with separately.

Second, I want to highlight the possibility that the provision of loss offsets under an income tax could operate to subsidize risk-taking generally in the way that the more tailored subsidies mentioned above operate in narrower sectors of the economy. This idea, of course, goes all the way back to the original proposal forwarded by Domar and Musgrave that loss offsets should be made more generous in order to augment aggregate risk-taking. One ob-

vious complication is that we do not currently inhabit the some-
what unique historical station from which Domar and Musgrave
wrote. That is, it may well have been noncontroversial at the time
to state the normative claim that aggregate risk-taking should be
higher than individual preferences would dictate. That may be a
harder case to make today. A further complication is that there is
no consensus on whether the government can in fact augment ag-
gregate risk-taking through the structuring of the loss offset provi-
sions of the income tax.

For present purposes, I propose to bracket these complications
in order to demonstrate how the analysis plays out differently in
the open economy context, if we assume that the government in
fact is using loss policy to increase aggregate risk-taking.[82]

Generally, a welfare enhancing allocation of assets toward
greater riskiness would be one in which the cost of the subsidy is
less than the value of the positive externality that is captured under
the resulting allocation. The interesting feature in the open econ-
omy context is the way in which this calculus may break down.
There are two elements at play. First, the phenomenon of diver-
gence tells us that the "cost" of subsidizing risk-taking is borne dis-
proportionately by the residence jurisdiction. Second, and notwith-
standing the first point, it would be surprising if the relevant
positive externality did not have some geographical component,
such that the source country in effect captures a portion of the
positive externality. For example, one can imagine that the subsidi-
zation of risky research and development creates substantial local
positive externalities in connection with the benefits of attracting
or fostering the educated workforce necessary to carry out the re-
search. To put the point most provocatively, to the extent that the
government does seek to subsidize risk-taking through the provi-
sion of loss offsets under the income tax, the possible effect is the
subsidization of externalities that are realized in part, perhaps sig-
nificantly so, by another sovereign.

Interestingly, this basic idea is implicit in the implementation of
various subsidy policies. For example, the United States strips

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[82] See, e.g., United States v. Foster Lumber Co., 429 U.S. 32, 42–43 (1976) ("Con-
gress also sought through allowance of loss carryovers to stimulate enterprise and in-
vestment, particularly in new businesses or risky ventures where early losses can be
carried forward to future more prosperous years.").

away the benefit of accelerated depreciation where the property is used predominantly outside the United States.[83] Similarly, the R&D credit is specifically disallowed for activities that occur outside the United States.[84] Another example, similar in spirit, relates to the generous rules regarding losses from the sale of certain small business stock, which are specifically limited to domestic corporations.[85] One way to understand these limitations is that the government is unwilling to bear the cost of the subsidy where the potential upside, in terms of tax revenue and positive externalities, may be captured by another jurisdiction.[86] A similar point applies here, to the extent that the government uses loss offsets to subsidize risk-taking, with the difference that there is no simple solution available to remove the benefit of the subsidy for foreign investments.[87]

The relation between public and private divergence in this respect is complicated. Clearly, if it is the case that downside risk is borne by the private sector, then the possibility of government subsidization of increased risk-taking does not even arise. At first blush, it would appear, then, that the issue discussed here has greater relevance where there is public divergence, and accordingly greater relevance under credit systems than exemption systems. In practice, however, the distinction between credit and exemption systems overstates the case. First, as already noted, many exemption systems are not pure exemption systems. Jurisdictions that are nominally exemption systems may permit the deduction of foreign source losses, in which case the system will behave like a credit sys-

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[83] I.R.C. § 168(g)(1)(A).

[84] I.R.C. § 41(d)(4)(F).

[85] I.R.C. § 1244(c)(1).

[86] The point is not that these subsidies necessarily relate to incentives for risky activity. The point, rather, is that it is important to understand the geographical component of the externalities that subsidies seek to capture. Thus, the particular subsidies described in the text may, but need not, involve incentives for risky activity.

[87] The underlying question is whether the loss offsets actually would have locational effects. For a model showing that an increase in the rate of tax on foreign source income, with full loss offsets, *does* increase the amount of U.S.-owned capital deployed abroad, see David G. Hartman, Foreign Investment and Finance with Risk, 93 Q.J. Econ. 213–32 (1979). For a model considering the effects with a variety of different loss offset limitations, see Rainer Niemann, Asymmetric Taxation and Cross-Border Investment Decisions (CESifo Working Paper No. 1219, 2004), http://www.cesifo.de/DocCIDL/1219.pdf.

tem for purposes of analyzing the problems with risk subsidization. Second, even where the residence country applies something closer to a pure territorial system and disallows foreign source losses, similar problems may still arise because of the complexities related to the allocation of deductions, particularly interest expense. In particular, even under a pure exemption method, to the extent the investor is able to allocate interest expense to domestic source income on what is essentially debt-financed foreign investment, the same effect will arise. Losses will look like domestic source losses and will be deductible, even under a regime that applies a pure territorial approach.[88] Although exemption jurisdictions may well apply a tracing approach to curtail this possibility, few jurisdictions (the United States being the key exception) have detailed rules on the issue of interest expense allocation at all.[89]

In sum, to the extent that provision of loss offsets spurs risky investment with positive local externalities, it would seem that the associated costs of the subsidy policy should be borne by the jurisdiction capturing such benefits. In a world with divergence, however, that may often not be the case. Governments should accordingly take these effects into account when adjusting policy toward losses as a tool to encourage risk-taking.

C. Double Tax Relief

Jurisdictions may well take the view that public divergence presents a greater problem than private divergence. For example, we have just seen that public divergence more directly creates the perverse problem of subsidizing through loss offsets localized positive externalities of risky foreign investment. Also, the basic normative argument sketched in Part III runs differently for public and private divergence. Public divergence presents more immediate problems of political legitimacy. Moreover, although I have presented arguments to the contrary, one can imagine a jurisdiction taking the position that private divergence presents less of a problem of

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[88] This is just a specific instance of the oft-noted point that exemption systems place particular pressure on sourcing rules. See, e.g., Ault & Arnold, supra note 21, at 358. Not surprisingly, that will be most true where source determinations are inherently problematic, such as is the case with interest expense.

[89] Ault & Arnold, supra note 21, at 375.

political legitimacy because the upside-downside split of divergence burdens only a private party that has voluntarily undertaken the risky transaction, presumably with awareness of the relevant tax treatment of gains and losses.

Not surprisingly, the basic way to shift some public divergence to private divergence is to provide less generous loss offsets to domestic firms with respect to losses on foreign investments. There are a number of ways in which this could be accomplished. The most obvious way is for a jurisdiction to move toward a pure territorial regime. As demonstrated in Table IV-B above, this has the effect of removing all public divergence. Alternatively, within the confines of a foreign tax credit system, a jurisdiction could implement stricter rules regarding the recapture of foreign losses. For example, under current U.S. rules, an overall foreign loss, which may offset domestic source income, is never recaptured in the case where the taxpayer fails to have net foreign source income in later years.[90] An alternate, stricter approach would be to recapture the losses after some specified period of time, irrespective of whether the taxpayer has any net foreign source income.[91]

The crucial dynamic here is that tightening rules regarding foreign losses may conflict with the other goals of a nation's international tax policy. Restricting the availability of foreign losses, however accomplished, necessarily will move the jurisdiction further from a pure worldwide regime and toward a pure territorial regime. This means that the jurisdiction will move some distance away from capital export neutrality and toward capital import neutrality. Put simply, restricting the availability of foreign losses places the taxpayer who undertakes risky foreign investment at a competitive disadvantage, compared to an identical taxpayer who undertakes a like risky domestic investment. If a jurisdiction is committed to capital export neutrality, therefore, attempts to shift public divergence into private divergence will necessarily conflict with that underlying commitment to capital export neutrality.

On the other hand, if a jurisdiction is otherwise trying to determine whether to opt for a system that is more like a pure exemp-

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[90] See I.R.C. § 904(f)(1) (providing that provision operates on "that portion of the taxpayer's taxable income from sources without the United States").

[91] See, e.g., Terra & Wattel, supra note 59, at 660.

tion system or more like a pure credit system, divergence puts a thumb on the exemption side of the scale. Another important policy implication of the analysis here, then, is that the mix of public and private divergence should be taken into account in the perennial debates over the relative merits of credit versus exemption systems. That is perhaps nowhere more true than in the United States, which has maintained a credit system for over 80 years but in which support for a momentous change to a territorial regime of taxation is increasing among scholars and policymakers.[92]

D. Transfer Pricing

Another way in which divergence could affect policy is if jurisdictions were to try to correct its distributive consequences indirectly (that is, other than by full refundability of losses). One such indirect response to divergence would be to focus not on policies toward loss offsets but rather on policies toward transfer pricing.[93] As should be clear at this point the immediate cause of divergence is the failure of the source jurisdiction to give more generous loss offsets. But the underlying cause of the factual circumstances that create the possibility of divergence in the first place (net losses arising in a capital importing jurisdiction) can be explained in large part by the adherence to arm's length transfer pricing.[94] This is true for two basic reasons. First, the arm's length method endorses the idea that a part of a multinational enterprise can be realizing net

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[92] For recent government policy studies favoring a move toward a territorial tax system, see Joint Comm. on Taxation, Options to Improve Tax Compliance and Reform Tax Expenditures 186–97 (2005); Joint Econ. Comm., Reforming the U.S. Corporate Tax System to Increase Tax Competitiveness 4–5 (2005); President's Advisory Panel on Fed. Tax Reform, Simple, Fair, and Pro-Growth: Proposals to Fix America's Tax System 102–05 (2005), available at http://www.taxreformpanel.gov/final-report.

[93] Transfer pricing refers to the setting of prices charged for goods and services among the distinct legal entities of a multinational enterprise. Because these entities are under common control, the prices do not reflect market pressures and thus afford substantial opportunities, in the absence of regulation, to shift profits (and losses) from one jurisdiction to another. See generally Comm. on Fiscal Affairs, Org. for Econ. Co-operation & Dev., Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations (1995) (providing background).

[94] Under an arm's length approach to transfer pricing, the basic goal is to set intercompany prices at a level that is consistent with the prices that would have been charged *if* the companies were acting at arm's length. For a general description see id. ¶¶ 1.6–1.25, at I-3 to -5.

losses at a time when the enterprise as a whole is profitable. This sets the stage for divergence to arise. Second, the arm's length method is of course imperfect: it gives taxpayers the incentive to shift deductions to relatively high tax jurisdictions, while shifting income to relatively low tax ones. This will tend to create a greater possibility of isolating net losses in a given jurisdiction.

These points suggest that global formulary apportionment, the chief rival to arm's length transfer pricing, may provide an indirect way of addressing the problem of divergence. The basic approach of the global formulary apportionment method is to determine the net profit of an entire multinational enterprise and then to allocate that profit across jurisdictions based on a pre-determined formula. The advantage of that approach, from the perspective of eliminating divergence, is that so long as an enterprise is profitable in the aggregate, there will be no net loss attributable to any jurisdiction. Thus, there will be no need to eliminate divergence through the politically unpalatable solution of full loss refundability.

At first glance, any shift in the direction of global formulary apportionment might seem to aggravate the problem. That is, divergence arises because of the failure of a source jurisdiction to refund a portion of a net loss; under global formulary apportionment the situation seems even worse because the source jurisdiction not only provides no refund, but also will gain the right to tax a portion of the enterprise's profits that arise in other jurisdictions. But this is only a partial analysis of the problem because it does not take account of the possibility that, with respect to other taxpayers (or investments of the same taxpayer), precisely the opposite result may arise. That is, a source jurisdiction in which a taxpayer realizes a net profit will tax less than it would under arm's length principles (or perhaps even bear a portion of a net loss as a carryback or carryover) because it is absorbing losses from other jurisdictions. It should be clear why global formulary apportionment reverses the effects of divergence. Under arm's length transfer pricing, net capital importers systematically benefit from the phenomenon. Under global formulary apportionment, however, net capital importers give back some of this benefit by bearing some of the cost of net losses realized in other jurisdictions.

It is important to acknowledge that global formulary apportionment does not necessarily yield exactly the same results as one

would observe in a world with full refundability of net losses. Indeed, it would be extremely unlikely that it would do so. That point is perhaps seen most readily in the case of a single taxpayer with a net loss in the source jurisdiction but which is part of a multinational enterprise that has an overall profit. In a world of full refundability, the divergence would be eliminated solely by virtue of that single investment. If there happen to be no other investments or other taxpayers, though, there will be no occasion for global formulary apportionment to reverse the effects. The more general point is that the efficacy of global formulary apportionment in reversing the effects of divergence depends on the actual investment experience across the full range of cross-border investments. That is not the case with full refundability of losses. Nonetheless, so long as net losses do arise in net capital exporters, the result will be to reverse the effects of divergence to some extent.

This suggests that global formulary apportionment should ameliorate divergence, at least compared with the baseline state of affairs under arm's length transfer pricing and no refundability of net losses. But it is by no means clear that this should be the appropriate baseline against which to gauge the inquiry. Recall that the basic normative critique of divergence set out above is premised upon the jurisdictional entitlement to tax based upon source, which cannot be divorced from prior commitments to arm's length transfer pricing. If global formulary apportionment were the norm we would have a very different understanding of the source entitlement. Consider that the basic normative flaw with divergence is that under current rules, a capital importer has the right to tax a net profit sourced to its jurisdiction, even though it would have no obligation to bear any part of a net loss. Under global formulary apportionment, however, the capital importer no longer has that right to tax the net profit sourced to its jurisdiction. That profit, rather, is thrown into the pot with other profits (and losses) of the multinational enterprise that are then apportioned by formula. Put most simply, the idea that there could be divergence between the way a jurisdiction taxes upside and downside for a given investment seems to dissolve because under global formulary apportionment, there is no longer any attempt to allocate realized profits or losses to a particular jurisdiction in the first instance.

It is ironic that in its last major consideration of the relative merits of arm's length transfer pricing and global formulary apportionment, the OECD seems to have considered this abandonment of the source principle to be a normative defect of global formulary apportionment. Thus, the OECD took it as an obvious mark against global formulary apportionment that a capital importer in which a loss is realized (under traditional sourcing principles) could nonetheless end up with the right to tax a portion of the net profit of the entire enterprise.[95] Under the analysis presented here, though, it is just that prospect of pooling of profit and loss across jurisdictions that is normatively attractive. It may seem odd when viewing one loss in isolation but, as discussed above, in the aggregate such pooling should be bidirectional and should ameliorate the effects of divergence.

It is an important implication of this Article, then, that global formulary apportionment provides advantages over arm's length transfer pricing with respect to the phenomenon of divergence. Based on the firm commitment of the OECD to arm's length transfer pricing, it may be unlikely that there will be a shift toward global formulary apportionment in the near future. Nonetheless, arm's length transfer pricing comes under frequent attack and at the very least the issue of cross-border loss bearing should play a role in these continuing debates.[96]

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[95] Id. ¶ 3.71.

[96] It is also possible to reverse the effects of divergence within the confines of arm's length transfer pricing, to the extent that jurisdictions permit multinational enterprises to engage in tax consolidation that spans borders. Any move in this direction obviously would require a great deal of multilateralism. It would not be sufficient simply for the jurisdiction in which the parent company of an enterprise is resident to take account of the losses of foreign subsidiaries. To reduce divergence, one would need the jurisdiction in which subsidiaries are incorporated to also recognize losses of related entities in foreign jurisdictions. Although this would take a great deal of coordination among taxing administrations of different jurisdictions, there is some indication that we may be moving toward cross-border consolidation in circumstances where such coordination is feasible. For example, the ECJ has recently held that the E.U. treaty requires a member state in certain cases to provide relief for subsidiary losses arising in another member state. See Case C-446/03, Marks & Spencer Plc. v. David Halsey, 2006 C.M.L.R. 18 (2005), available at http://curia.eu.int/en/content/juris/c2.htm (follow "C-446/03" hyperlink, then the hyperlink dated 2005-12-13).

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E. Implicit Foreign Aid

Finally, I conclude with one quite interesting way in which divergence may intersect with broader policy issues outside the narrow field of domestic and international taxation. Given the potential for divergence to redistribute sums across borders in ways that have drawn far less attention than foreign aid, one natural question that arises is whether divergence might not be useful as an affirmative tool for cross-border transfers. I suspect that this would have obvious appeal to those who view foreign aid as a moral obligation of wealthy nations. But it is relevant as well for those who view foreign aid strictly in terms of a donor country's self interest.[97] Specifically, even if one views foreign aid strictly in strategic terms, it is quite plausible that, given current levels of public misinformation, legislators are essentially precluded from delivering an optimal amount of aid. For example, polls suggest that Americans believe that twenty percent of the federal budget goes to foreign aid, when the real number is well under one percent.[98] Methods of delivering implicit foreign aid may well be optimal from a political economy perspective. Perhaps divergence can play precisely that role and in this way has, in fact, desirable distributive consequences.

There are some obvious advantages and pitfalls to such an approach. On the positive side, if opacity is the goal then there is no question that divergence provides ample political cover. On the downside, however, divergence is obviously an extremely crude tool for directing implicit transfers to the neediest recipients. It is true that divergence will favor net capital importers and one would expect a general correlation between countries that must import

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[97] Most, perhaps almost all, foreign aid from the outset has been understood as bringing to the United States some type of quid pro quo, ranging from containing communism in the years after World War II to fighting terrorism today. See Cong. Research Serv., Foreign Aid: An Introductory Overview of U.S. Programs and Policy 1 & n.1 (2004), available at http://usinfo.state.gov/usa/infousa/trade/files/98-916.pdf.

[98] Stephen Kull et al., The Federal Budget: The Public's Priorities 14 (2005), available at http://65.109.167.118/pipa/pdf/mar05/FedBudget_Mar05_rpt.pdf ("Past research has indicated that Americans tend to greatly overestimate the amount of spending devoted to all foreign aid (their median response is generally 20% of federal spending) and to propose amounts of foreign aid spending that are substantially lower than their assumed amount (generally a median of 10%), but far higher than the actual amount of federal spending (about 1%). Nonetheless, when presented a far smaller amount for foreign aid in the budget exercise, only a minority increased it.").

capital and those countries in need of aid. But those nations most in need of aid are unlikely to attract much foreign direct investment at all. A further problem is that the implicit transfer achieved by divergence is, as compared to the baseline where upside and downside risk is paired in a single jurisdiction, in essence an increase in the revenues of the source country fisc. For reasons that are well documented, cash transfers to sovereigns may not be the best way to deliver foreign aid. In sum, efforts to ameliorate divergence (e.g., through indirect methods such as adoption of global formulary apportionment) should take account of the potentially adverse effects on net capital importers that are otherwise appropriate beneficiaries of foreign aid. As an affirmative means of delivering aid, however, divergence seems not particularly well suited to the task.

CONCLUSION

The relation between taxation and risk-taking has occupied an important place in tax scholarship in recent years. In this Article, I have attempted to extend that analysis into the open economy setting, and to demonstrate that the conjunction of current international tax instruments and risky cross-border capital flows leads to the divergence of upside and downside risk across jurisdictions. The accompanying distributive consequences are difficult to square with the normative underpinnings of jurisdictional tax entitlements in the international setting. Because competing distributive commitments will make it difficult to eliminate divergence, however, the phenomenon should play a role in a range of policy debates where its distributive effects are relevant, though not previously noted.