

# How Should Governments Promote Distributive Justice?: A Framework for Analyzing the Optimal Choice of Tax Instruments

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## I. INTRODUCTION

Inequality has been growing dramatically over the past few decades.<sup>1</sup> In the United States, the concentration of income controlled by the top 1% has more than doubled since the 1970's.<sup>2</sup> Moreover, due to factors like technological advancement, many predict that these trends may continue over the coming years, with the top percentage of taxpayers gaining control of an even greater portion of the economic pie.<sup>3</sup>

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<sup>1</sup> Facundo Alvaredo, Anthony B. Atkinson, Thomas Piketty & Emmanuel Saez, *The Top 1 Percent in International and Historical Perspective*, J. Econ. Persp., Summer 2013, at 2, 3-7. By "inequality" in this context, I mean intra-nation, income-related inequality. There are other forms of inequality, and not all of these are growing. But, for the purposes of this Article, what matters is that there is reason to predict that governments are likely to remain concerned with raising revenues from the best-off taxpayers (or, more generally, with distributional equity concerns).

<sup>2</sup> *Id.* at 4; see also David Weisbach, *The Pareto Minimal Tax System—A Review of Fundamental Tax Reform: Issues, Choices, and Implications*, 64 Nat'l Tax J. 909, 913-14 (2011) (book review) ("By almost any measure there has been a very large increase in the share of income going to individuals at the very top of the income distribution. The precise amounts vary by study but I don't know of a study that disputes the finding that the share of income going to the top 1 percent has increased dramatically, and that as one narrows the field to thinner and thinner slices of the distribution, the effect becomes more pronounced.").

<sup>3</sup> E.g., Erik Brynjolfsson & Andrew McAfee, *Race Against the Machine: How the Digital Revolution Is Accelerating Innovation, Driving Productivity, and Irreversibly Trans-*

Some argue that governments should raise the highest income tax rates in order to combat this growing inequality or to raise revenues to pay down government debts.<sup>4</sup> Yet the opponents of raising the highest income tax rates contend that doing so would induce high-income taxpayers to respond through economically harmful tax reduction techniques.<sup>5</sup> There is thus a wide literature analyzing how we might reform income taxes so as to more efficiently raise revenues and “promote distributional equity”<sup>6</sup> while causing less economic harm.

Ultimately, however, there are powerful constraints on the extent to which existing tax systems plausibly might be reformed. Designing tax systems is fraught with difficult line-drawing problems, with the result that taxpayers have strong incentives to reorganize their affairs so as to cross these lines in search of tax benefits.<sup>7</sup> No one seriously suggests that tax avoidance and evasion could be completely eliminated in real world contexts. Indeed, historical experience with fundamental tax reform suggests that high-income taxpayers will eventually find numerous ways to circumvent any plausible real world forms of taxation.<sup>8</sup>

For instance, although the 1986 Tax Reform Act appears to have substantially limited many of the most egregious tax reduction techniques employed by high-income U.S. taxpayers prior to 1986, most

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forming Employment and the Economy 33-34 (2011); Tyler Cowen, *Average Is Over: Powering America Beyond the Age of the Great Stagnation* 4-5 (2013); Thomas Piketty, *Capital in the Twenty-First Century* 1 (2014).

<sup>4</sup> E.g., Peter Diamond & Emmanuel Saez, *The Case for a Progressive Tax: From Basic Research to Policy Recommendations*, *J. Econ. Persp.*, Fall 2011, at 165, 167-75.

<sup>5</sup> E.g., Martin Feldstein, *Effects of Taxes on Economic Behavior*, 61 *Nat'l Tax J.* 131, 137 (2008).

<sup>6</sup> Throughout this Article, I purposefully refer to “promoting distributive justice” or to “promoting distributional equity” (or similar terms, all of which I use synonymously), rather than to “redistribution.” As I began to explain in prior work, and as I hope to elaborate further in future work, I have concluded that the term “redistribution” has inaccurate and misleading connotations, as the term is commonly used in the academic literature. See David Gamage & Darien Shanske, *Three Essays on Tax Salience: Market Salience and Political Salience*, 65 *Tax L. Rev.* 19, 79-98 (2011). By using terms like “promoting distributional equity,” I mean to refer to government attempts to advance goals related to distributive justice, and especially to government attempts at combatting income or wealth inequities or related forms of inequity or inequality, in accordance with the government’s social welfare function. For further discussion, see note 71 and accompanying text.

<sup>7</sup> See David A. Weisbach, *Line Drawing, Doctrine, and Efficiency in Tax Law*, 84 *Cornell L. Rev.* 1627, 1629-30 (1999).

<sup>8</sup> See Ronald A. Pearlman, *A Tax Reform Caveat: In the Real World, There is No Perfect Tax System*, in *Toward Fundamental Tax Reform* 106, 112 (Alan J. Auerbach and Kevin A. Hassett eds., 2005) (explaining that real-world tax reform proposals will “be full of exceptions from a theoretically pure model” and will thus be subject to tax avoidance and tax evasion).

scholars have concluded that this was only a temporary victory.<sup>9</sup> It did not take long before high-income U.S. taxpayers switched to using different tax reduction techniques, such as techniques involving recharacterizing what might be thought of as economically being “labor income” so that it is treated as a form of capital asset by the income tax system, and then exploiting the realization rules so as to use these “capital assets” to fund consumption while skirting at least substantial portions of both the ordinary income and capital gains components of the income tax.<sup>10</sup> Today, there is at least anecdotal evidence suggesting that many of the highest-income U.S. taxpayers use techniques of this sort so as to dramatically reduce their income tax liabilities.<sup>11</sup>

There is thus reason to infer that many high-income taxpayers are able to at least substantially skirt income taxes, and that this will remain the case regardless of how existing income taxes might plausibly be reformed. Therefore, to complement attempts to reform existing income taxes, this Article argues that governments should potentially also raise revenues and promote distributional equity through a number of supplementary policy instruments.

In particular, this Article argues that at least some legal rules should be designed to promote distributional equity, in contrast to the dominant view in the prior law-and-economics literature that (with limited exceptions) distributional equity should be promoted exclusively through the setting of tax rates.<sup>12</sup> Furthermore, building on this Article’s analysis, a forthcoming companion Article argues that governments should potentially: (1) levy *both* personal labor income taxes and value-added consumption taxes, (2) tax *both* capital income and

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<sup>9</sup> See Reuven S. Avi-Yonah, *The Rise and Fall of the Consumption Tax: A Historical Perspective* 3 (Draft of 11/14/14) (“However, the 1986 reform was not to last. By 1990, the ordinary income rate and the capital gains rate began to diverge, and by 1997 the gap had widened to pre-1986 dimensions, leading to a new wave of shelters built on converting ordinary income to capital gains.”), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2523941](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2523941).

<sup>10</sup> For further discussion, see Subsection I.C.1.

<sup>11</sup> See, e.g., Christopher H. Hanna, *Tax Theories and Tax Reform*, 59 *SMU L. Rev.* 435, 437-38 (2006) (“much of the wealth of entrepreneurs and capitalists, such as Bill Gates and Warren Buffet, the two wealthiest Americans, has never been taxed because, in each case, the bulk of their wealth is held in stock of corporations that they created or acquired. . . . In other words, Gates and Buffet have primarily pretax wealth, while most individuals have primarily after-tax wealth.”); The Nat’l Econ. Council, *The Buffet Rule: A Basic Principle of Tax Fairness* 1 (Apr. 2012), available at [http://www.whitehouse.gov/sites/default/files/Buffett\\_Rule\\_Report\\_Final.pdf](http://www.whitehouse.gov/sites/default/files/Buffett_Rule_Report_Final.pdf) (“Some of the richest Americans pay extraordinarily low tax rates—as they hire tax lawyers and accountants to take particular advantage of loopholes and tax expenditures. . . . Many high-income Americans *are* paying less in taxes than middle class Americans in taxes.”).

<sup>12</sup> E.g., Louis Kaplow & Steven Shavell, *Why the Legal System Is Less Efficient Than the Income Tax in Redistributing Income*, 23 *J. Legal Stud.* 667, 669 (1994).

wealth, *and* (3) make use of other tax and nontax legal rules for distributive purposes.<sup>13</sup>

This Article's policy prescriptions thus run counter to an influential set of arguments drawn from modern public finance theory—sometimes called “double-distortion” arguments within the legal literature.<sup>14</sup> As Professor Daniel Shaviro explains, “the ‘double distortion’ literature in legal scholarship. . . draws the conclusion that distributional objectives should be pursued entirely through a progressive consumption tax [or a labor income tax]. . . . This is a legal literature based on certain economics literature. Economists may be bemused by how this legal literature treats this economics literature.”<sup>15</sup>

This Article analyzes how the models underlying double-distortion arguments can be generalized to account for taxpayers engaging in a diverse variety of tax reduction behaviors, many of which are quite idiosyncratic and contingent on exploiting the details of how tax systems are implemented. This Article argues that generalizing double-distortion models in this fashion implies that governments should potentially make use of a number of policy instruments in order to raise revenues and to promote distributional equity, contrary to the prescriptions typically drawn from double-distortion models.

Often called “optimal tax theory,” the modern structure of public finance economics was largely engineered around models of labor-to-leisure distortions.<sup>16</sup> In other words, scholars considered individuals reducing their work effort in response to taxation to be a central problem of tax policy. In the 1970's and 1980's, when many of the foundational insights of optimal tax theory were first generated, both the empirical and theoretical literatures offered reason to infer that labor-to-leisure distortions should be a first-order concern for tax design problems. Yet the results from the last two decades of public finance

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<sup>13</sup> David Gamage, *The Case for Taxing (All Of) Labor Income, Consumption, Capital Income, and Wealth*, 68 *Tax L. Rev.* (forthcoming), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2465522](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2465522) (draft of Nov. 10, 2014).

<sup>14</sup> The phrase “double-distortion argument” is primarily used in the existing literature to refer to Louis Kaplow and Steven Shavell's analysis of distribution through legal rules. See Section III.B. But similar arguments are made in a variety of other policy contexts, and for ease of exposition, I use this phrase to refer to the entire class of policy arguments made based on similar underlying logic.

<sup>15</sup> Daniel Shaviro, *NYU Tax Policy Colloquium, Week 13, David Gamage's “A Framework for Analyzing the Optimal Choice of Tax Instruments,”* pt. 1, *Start Making Sense* (Apr. 30, 2014, 11:07 AM), available at <http://danshaviro.blogspot.com/2014/04/nyu-tax-policy-colloquium-week-13-david.html>.

<sup>16</sup> E.g., Louis Kaplow, *The Theory of Taxation and Public Economics* 317 (2008) (“Incentive concerns . . . involving labor effort [are] the focus of most optimal tax analysis.”); James Banks & Peter Diamond, *The Base for Direct Taxation*, in *Dimensions of Tax Design* 548, 570 (Stuart Adam, Tim Besley, Richard Blundell, Steve Bond, Robert Chote, Malcolm Gammie, Paul Johnson, Gareth Myles & James Poterba eds., 2010) (“Standard modeling assumes perfect observation of capital and labour incomes.”).

research imply that labor-to-leisure distortions may be of only secondary importance for many tax policy questions.

First, the recent empirical literature suggests that taxpayers might respond to taxation not primarily through labor-to-leisure substitutions,<sup>17</sup> but rather through a variety of more idiosyncratic and context-dependent distortionary behaviors—that I will refer to as “tax gaming” distortions.<sup>18</sup> This appears to especially be true with respect to high-income taxpayers, for whom distributional considerations are particularly relevant.<sup>19</sup> Indeed, the recent empirical literature finds essentially no evidence that high-income taxpayers significantly reduce their labor effort in response to taxation.<sup>20</sup> In contrast, there is a plethora of evidence documenting that high-income taxpayers respond to taxation through a diverse variety of tax gaming strategies.<sup>21</sup>

Second, in response to these empirical findings, the recent theoretical literature has developed better techniques for modeling tax gaming responses. Obstacles to the early analysis of tax gaming included that gaming is highly contingent on the idiosyncratic design of tax systems and that the aggregate category of gaming consists of a variety of distinct tax reduction techniques. It is therefore difficult to produce

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<sup>17</sup> For discussion and reviews of the empirical literature, see, e.g., Gamage, note 13, at 19-28; Emmanuel Saez, Joel Slemrod & Seth H. Giertz, *The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review*, 50 *J. Econ. Literature* 3, 4, 42 (2012) (concluding that “[a]lthough evidence of a substantial compensated labor supply elasticity has been hard to find, evidence that taxpayers respond to tax system changes more generally has decidedly not been hard to find. . . .”, and also concluding that “while there is compelling U.S. evidence of strong behavioral responses to taxation at the upper end of the distribution” these responses consist entirely of “timing and avoidance” transactions).

<sup>18</sup> One reason why I use the term “tax gaming” is to skirt the question of whether the tax reduction behaviors in question are legal (corresponding with the term “tax avoidance”) or illegal (corresponding with the term “tax evasion”), as many important real world tax gaming behaviors are of unclear or borderline legality. For the purposes of this Article, it is not important to precisely delineate what counts as a “tax gaming” distortion, so long as it is understood that “tax gaming” refers to the subcategory of distortionary tax reduction behaviors that tend to be more idiosyncratic and contingent on exploiting the details of how tax systems are implemented. For further discussion of the nature of tax gaming, see Subsection III.A.2.

<sup>19</sup> Saez et. al., note 17, at 4 (“There is no compelling evidence to date of *real* responses of upper income taxpayers to changes in tax rates. . . .”); Costas Meghir & David Phillips, *Labour Supply and Taxes* 47 (Inst. for Fiscal Stud., Working Paper WP08/04, 2008), available at <http://www.ifs.org.uk/wps/wp0804.pdf> (“For highly educated individuals the sensitivity of both hours of work and participation to work incentives are almost zero.”).

<sup>20</sup> E.g., Saez et. al., note 17, at 4; Meghir & Phillips, note 19, at 42.

<sup>21</sup> E.g., Saez et. al., note 17, at 4, 42; see also Douglas A. Shackelford, *The Tax Environment Facing the Wealthy*, in *Does Atlas Shrug? The Economic Consequences of Taxing the Rich* 114, 114 (Joel B. Slemrod ed., 2000) (discussing gaming strategies); Jesse Drucker, *How to Pay No Taxes: 10 Strategies Used by the Rich*, *BusinessWeek* (Apr. 17, 2012), <http://www.businessweek.com/articles/2012-04-17/how-to-pay-no-taxes-10-strategies-used-by-the-rich> (same).

generalizable insights from models of specific tax gaming responses.<sup>22</sup> To address these challenges, the recent literature has developed a sufficient-statistics methodology for modeling tax responsiveness.<sup>23</sup> In contrast to the earlier approaches, which analyzed only specific forms of tax gaming, the newer sufficient-statistics methodology generates insights by modeling aggregate categories of gaming responses.

Building on these empirical and theoretical advances, the public finance literature is currently in the process of greatly expanding our capacity to analyze tax systems.<sup>24</sup> Yet these insights from the recent literature have not yet been fully incorporated into an important set of policy problems that I label as “optimal-choice-of-tax-instruments” questions.

Following common terminology in the public finance literature, I use the term “tax instrument” to refer to any policy variable that a government might adjust in order to raise revenues or to promote distributional equity.<sup>25</sup> I thus use the phrase “the optimal choice of tax instruments” to refer to a government’s decisions about how to raise revenues or to promote distributional equity, abstracting from the related questions of how much revenue should be raised or how much distributional equity should be promoted. Hence, as defined, optimal-choice-of-tax-instruments questions take as their starting point pre-specified social welfare weights for balancing distributional equity against efficiency and a pre-specified amount of revenue to be raised. In other words, taking as inputs revenue needs and social preferences regarding the tradeoff between distributional equity and efficiency, optimal-choice-of-tax-instruments questions ask which policy instruments a government should use for raising revenues or for promoting

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<sup>22</sup> Raj Chetty, *Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods*, *Ann. Rev. Econ.*, Sept. 2009, at 451, 467.

<sup>23</sup> As Raj Chetty has explained, sufficient-statistics methodology allows for making welfare predictions based on high-level estimates of aggregate categories of behavioral responses, as opposed to modeling only specific behavioral responses. *Id.* at 452 (“The central concept of the sufficient-statistic approach . . . is to derive formulas for the welfare consequences of policies that are functions of high-level elasticities rather than deep primitives. Even though there are multiple combinations of primitives that are consistent with the inputs to the formulas, all such combinations have the same welfare implications.”).

<sup>24</sup> For an overview of some of this research, see generally Joel Slemrod & Christian Gillitzer, *Tax Systems* (2014).

<sup>25</sup> “Tax instruments” thus stand in contrast to “regulatory instruments,” which are designed for goals other than raising revenues or promoting distributional equity. Some policy instruments, however, might function both as regulatory instruments and as tax instruments, insofar as a government can adjust these policy instruments to further either regulatory or revenue and distributional goals. In other words, legal rules that are designed primarily for regulatory purposes may also function as tax instruments to the extent that the legal rules can be adjusted so as to promote distributional equity or to raise revenues for the government.

distributional equity and to what extent the government should rely on each tax instrument so used.<sup>26</sup>

The existing law and economics literature on the optimal choice of tax instruments is dominated by two different approaches. First, as mentioned previously, what sometimes is called the double-distortion approach applies the insights from an important public finance innovation of the 1970's—the Atkinson-Stiglitz model.<sup>27</sup> The double-distortion approach is based on the intuition that taxing how money is spent also reduces the returns to work (as opposed to leisure). Moreover, under the assumptions of the Atkinson-Stiglitz model, any revenues raised from taxing how money is spent will induce exactly the same magnitude of labor-to-leisure distortions as would raising those revenues from taxing only labor income, in addition to possibly also distorting taxpayers' choices of how to spend their money.<sup>28</sup> Therefore, differentially taxing how money is spent induces the double distortion of (1) labor-to-leisure distortions and (2) distortions in how taxpayers spend the money they earn. For this reason, with limited exceptions,<sup>29</sup> the advocates of double-distortion arguments typically conclude that all distributional equity should be promoted either through a labor income tax or through a comprehensive consumption tax that levies the same tax rate on all forms of spending.<sup>30</sup>

Hence, so as not to distort taxpayers' choices of whether to save to fund future consumption or whether to instead forgo saving so as to spend in the present (in other words, “saving-to-spending distortions”), double-distortion arguments have led many scholars to conclude that governments should not tax either capital income or wealth—generating what has been called a “pro-consumption tax consensus”.<sup>31</sup> More broadly, double-distortion scholarship has concluded that nearly all tax and nontax legal rules should be designed solely to promote efficiency, with distributional concerns handled near exclusively through either a labor income tax or a progressive consumption tax.<sup>32</sup> Although not universally accepted, the double-distortion ap-

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<sup>26</sup> For further discussion, see notes 73–77 and accompanying text.

<sup>27</sup> For further discussion, see Subsection II.A.2.

<sup>28</sup> Kaplow, note 16, at 122–33.

<sup>29</sup> For a discussion of the exceptions in which double-distortion scholarship is in agreement that instruments other than a labor income or consumption tax should be used for distribution, see Subsection III.A.1.

<sup>30</sup> Under the assumptions of double-distortion arguments, these two forms of taxation are deemed to be essentially equivalent. For further discussion, see Gamage, note 13, at 38.

<sup>31</sup> Daniel Shaviro, *Beyond the Pro-Consumption Tax Consensus*, 60 *Stan. L. Rev.* 745, 746–47 (2007).

<sup>32</sup> E.g., Kaplow & Shavell, note 12, at 669; David A. Weisbach, *Should Legal Rules Be Used to Redistribute Income?*, 70 *U. Chi. L. Rev.* 439, 439 (2003).

proach is probably the “dominant position in tax law and policy.”<sup>33</sup> The double-distortion approach has also been highly influential as applied to numerous aspects of social welfare policy and to law and policy analysis more generally.<sup>34</sup>

To understand the central intuition underlying how this Article departs from the double-distortion approach, consider further the mechanism through which taxes on how money is spent (such as excise taxes) induce labor-to-leisure distortions. Labor-to-leisure distortions operate through taxpayers substituting untaxed leisure consumption for purchased consumption that is taxed both by labor income taxes (when the money is earned) and by excise taxes (when the money is spent).<sup>35</sup> Consequently, the incentives that taxation creates to substitute leisure for labor are a direct function of both labor income tax rates and excise tax rates.

In contrast, consider a taxpayer deciding whether to claim an artificial or inflated labor income tax deduction. By “artificial” or “inflated,” I mean that the taxpayer does not claim the deduction directly as a result of incurring additional real business expenses or by otherwise expending real resources such that the taxpayer’s ability to fund purchased consumption is reduced dollar for dollar by the amount of the deduction. Instead, imagine a taxpayer claiming a deduction through illegal fraud, through aggressive valuation, or through legally taking advantage of a tax loophole.<sup>36</sup> Certainly, this taxpayer may need to incur costs in order to claim artificial deductions of this sort, and these costs may reduce the taxpayer’s resources for funding purchased consumption.<sup>37</sup> Yet as long as the taxpayer incurs less than a dollar of costs per dollar of labor income tax savings,<sup>38</sup> claiming this deduction will reduce the taxpayer’s labor income tax liability in excess of any reduction to the taxpayer’s monetary resources for funding purchased consumption.

Therefore, taxpayers’ incentives to engage in tax gaming techniques of this sort are a direct function of only the tax rates of the labor income tax. Unlike with labor-to-leisure distortions, excise tax rates should have only secondary effects on incentives to engage in these

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<sup>33</sup> See Chris William Sanchirico, *Tax Eclecticism*, 64 *Tax L. Rev.* 149, 224 (2011).

<sup>34</sup> For examples of how the double-distortion approach has been applied to numerous different policy areas, see Kaplow, note 16, at 53-344.

<sup>35</sup> A central assumption of double-distortion models is that the government cannot tax leisure consumption, or alternatively, that there exists some form of utility that the government cannot tax that is labeled as “leisure.” See Shaviro, note 31, at 759-60.

<sup>36</sup> For examples and further discussion, see Subsection II.C.1.

<sup>37</sup> Indeed, as discussed further in section II.A, only those forms of tax-responsiveness for which taxpayers incur costs are directly relevant for analyzing optimal tax mix questions.

<sup>38</sup> This generally will be the case except at the margin. See Subsection III.A.2.

forms of tax gaming responses.<sup>39</sup> Importantly, this result holds even under the controversial assumptions of the Atkinson-Stiglitz model that taxpayers are homogeneous except in their ability to earn labor income and that taxpayers' preferences are weakly separable in labor and consumption.<sup>40</sup> As compared to raising all revenues through a labor income tax, then, raising some revenues through excise taxes can reduce taxpayer incentives to engage in forms of tax gaming that operate like claiming artificial or inflated labor income tax deductions.

There is at least anecdotal evidence in support of the inference that many important real-world tax gaming techniques involve claiming artificial or inflated income tax deductions, in the manner discussed above.<sup>41</sup> Moreover, as elaborated further below, there is reason to infer that many other important tax gaming responses through which high-income taxpayers currently respond to real world income taxes operate (in this sense) like claiming artificial or inflated tax deductions.<sup>42</sup>

There is some previous economics research evaluating specific forms of tax gaming through analyses of this sort.<sup>43</sup> This Article's pri-

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<sup>39</sup> For a simple example as to why: Imagine if a government set the labor income tax rate at zero, thus raising all revenues through excise taxes. Taxpayers would then have no incentive to claim artificial labor-income-tax deductions, as doing so would produce no tax benefit. For further discussion, see notes 157–60 and accompanying text.

<sup>40</sup> For elaboration, see Subsection II.A.1.

<sup>41</sup> See Mark P. Gergen, *Uncertainty and Tax Enforcement: A Case for Moderate Fault-Based Penalties*, 64 *Tax L. Rev.* 453, 472 (2011) ("there is a great deal of anecdotal evidence that taxpayers are aggressive in valuing uncertain tax items and in exploiting legal uncertainty"). For examples and further discussion, see Subsection II.C.1.

<sup>42</sup> In other words, the example of claiming artificial or inflated tax deductions is chosen for illustrative purposes. Expanding the discussion to consider other major forms of tax gaming currently engaged in by high-income taxpayers reveals that the argument above should also apply more generally. See Subsection II.C.1.

<sup>43</sup> Most relevantly, Roger Gordon and Soren Nielsen compare a VAT and a cash-flow income tax under the assumptions that the VAT can be evaded through cross-border shopping and that the income tax can be evaded through shifting taxable income abroad. Similarly to this Article, Gordon and Nielsen prescribe that both tax instruments should be used in order to minimize overall distortionary costs. Roger H. Gordon & Soren Bo Nielsen, *Tax Evasion in an Open Economy: Value-Added vs. Income Taxation*, 66 *J. Pub. Econ.* 173, 182 (1997). Beyond Gordon and Nielsen's article, a handful of prior papers have modeled the implications of certain forms of purely illegal tax evasion for optimal-choice-of-tax-instruments questions. See, e.g., Robin Boadway, Maurice Marchand & Pierre Pestieau, *Towards a Theory of the Direct-Indirect Tax Mix*, 55 *J. Pub. Econ.* 71, 72–73 (1994); James R. Hines Jr., *Might Fundamental Tax Reform Increase Criminal Activity?*, 71 *Economica* 483, 483 (2004); Jonathan R. Kesselman, *Evasion Effects of Changing the Tax Mix*, 69 *Econ. Rec.* 131, 131 (1993); Wolfram F. Richter & Robin W. Boadway, *Trading Off Tax Distortion and Tax Evasion*, 7 *J. Pub. Econ. Theory* 361, 361 (2005). Also highly relevant to the project set forth in this Article are a few papers applying optimal tax theory in developing country contexts, based on the idea that it is not practical to levy a comprehensive income or consumption tax. See, e.g., Roger Gordon & Wei Li, *Tax Structures in Developing Countries: Many Puzzles and a Possible Explanation*, 93 *J. Pub. Econ.* 855, 856 (2009); M. Shahe Emran & Joseph E. Stiglitz, *Equity and Efficiency in Tax Re-*

mary contribution is to generalize this insight about tax gaming into a theoretical framework capable of analyzing aggregate categories of tax responsiveness so as to generate prescriptions for real world policy questions.

Crucially, once we account for tax gaming responses, labor income and consumption taxes do not necessarily dominate alternative tax instruments such as excise taxes<sup>44</sup>—contrary to the assumptions underlying double-distortion arguments. Therefore, to the extent that labor income and consumption taxes generate tax gaming responses that operate like claiming artificial or inflated tax deductions, we must determine the optimal choice of tax instruments by examining the *marginal costs* of raising revenues through the various possible tax instruments.

To illustrate this point, consider a government that wishes to raise revenue through some combination of a labor income tax and excise taxes. Imagine, for the purposes of this example, that the empirical literature reports that raising any fixed amount of revenue through the excise taxes would generate approximately twice as much economic harm through efficiency costs as would raising that revenue through the labor income tax. Further imagine that the empirical literature reports that the economic harm generated by both tax instruments primarily results from tax gaming responses that operate like claiming artificial or inflated tax deductions, rather than from responses that operate like labor-to-leisure distortions.<sup>45</sup>

Based on the evidence that excise taxes generate approximately double the efficiency costs per any fixed amount of revenue raised, it might seem that the government should raise all of its revenue through the labor income tax. However, that a tax instrument is a superior mechanism for raising any fixed sum of revenues does *not* imply that the tax instrument is superior for raising marginal revenues. Instead, we need to calculate for each tax instrument the formula for the relative marginal costs of raising funds.

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form in *Developing Countries 2-3* (July 2007) (unpublished manuscript), available at <http://ssrn.com/abstract=1001269>.

<sup>44</sup> One tax instrument “dominates” another tax instrument if and only if there are both no margins of distortionary responses for which the first tax instrument would generate more costly distortions than the second tax instrument (for any optimal combination of the tax instruments) and there is at least one margin of distortionary responses for which the first tax instrument would generate less costly distortions than the second tax instrument.

<sup>45</sup> In the terminology developed in Part II, imagine that the distortionary costs from both tax instruments primarily result from single-instrument responses. Alternatively, this example works out equivalently if we imagine that—after factoring out multi-instrument responses—the labor income tax generates approximately twice the magnitude of single-instrument distortionary costs as the excise taxes for any fixed amount of revenue to be raised, and that there are not significant instrument-shifting distortionary costs or overhead costs.

A basic principle of economic theory suggests that the marginal efficiency costs generated by a tax instrument generally rise approximately with the square of the relevant tax rates.<sup>46</sup> Another basic principle of economic theory suggests that the revenues generated by increasing a tax rate rise less than linearly, as increasing a tax rate induces additional tax-reduction behaviors.<sup>47</sup> Consequently, as a general rule of thumb, doubling the amount of revenues to be raised through a tax instrument is thought to more than quadruple the efficiency costs generated by that tax instrument.

In order to minimize overall efficiency costs, then, we might estimate that a hypothetical government should raise at least a third of its revenues through its excise taxes and no more than two-thirds of its revenues through its labor-income tax.<sup>48</sup> That the excise taxes generate approximately double the efficiency costs per any fixed amount of revenue to be raised is potentially counteracted by the rule of thumb that doubling the amount of revenues to be raised through a tax instrument more than quadruples the efficiency costs generated by that tax instrument. Thus, were the government to raise more than twice as large a portion of its revenues through its labor income tax as through its excise taxes, the marginal efficiency costs per dollar of revenue raised might be expected to be higher for the labor income tax than for the excise taxes.<sup>49</sup>

This example is oversimplified on a number of dimensions. As explained further below, a more complete analysis suggests that this example probably *understates* the advantages of levying multiple tax instruments.<sup>50</sup> Nevertheless, this example should suffice to demonstrate that, when comparing multiple tax instruments, none of which dominates the others, one must base the analysis on the marginal costs of raising public funds. Again, that one tax instrument is a superior mechanism for raising any fixed sum of revenues does not imply that the instrument is a superior mechanism for raising marginal revenues.

Looking to real world labor income and consumption taxes, many argue that these two tax instruments are the best available mecha-

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<sup>46</sup> For further discussion, see Subsections II.A.1 & III.A.2.

<sup>47</sup> See Subsection II.C.2.

<sup>48</sup> Defining  $l$  as the labor income tax rate and  $e$  as the excise tax rate, then—based on the principle that distortionary costs generally rise approximately with the square of the relevant tax rates—the distortionary costs generated can be estimated as being  $l^2$  for the labor income tax and as  $2e^2$  for the excise taxes. Overall distortionary costs could thus be minimized by setting the two tax rates such that the derivatives of the distortionary cost formulas with respect to the tax rates are equal. The derivatives are, respectively,  $2l$  and  $4e$ , so  $l$  should be set as twice  $e$ . Of course, these calculations are oversimplified in a number of respects, as elaborated throughout the remainder of this Article.

<sup>49</sup> See note 48.

<sup>50</sup> See Subsection II.C.2.

nisms for raising any fixed sum of revenue or for promoting any fixed amount of distribution. Yet, even if this is so, it still may be optimal for governments to employ a variety of supplementary tax instruments. The evidence suggests that many high-income taxpayers find real world labor income and consumption taxes to be rather porous.<sup>51</sup> Consequently, once it is understood that—in light of tax-gaming responses—real world labor income and consumption taxes do not dominate many alternative tax instruments, it potentially follows that governments should make use of a number of supplementary tax instruments, rather than promoting distribution near exclusively through either a labor income or consumption tax. Even if the alternative tax instruments are more porous with respect to raising any fixed sum of revenue, these tax instruments may be superior on the margin for raising significant amounts of revenue or for promoting significant amounts of distributional equity.

This discussion of the importance of the marginal cost of public funds (MCPF) relates directly to the second major approach for analyzing the optimal choice of tax instruments within the existing literature. Beyond the double-distortion approach, some prior scholars have also evaluated optimal-choice-of-tax-instruments questions through MCPF-based approaches.

Economists have long debated how to define the MCPF and related concepts.<sup>52</sup> In accordance with double-distortion arguments, economists often model MCPF formulas as being a fixed characteristic of tax instruments, rather than as varying based on the government's policy choices with respect to other tax instruments.<sup>53</sup> This Article, however, argues that—in light of tax gaming responses—the MCPF concept should only be applied to optimal-choice-of-tax-instruments questions based on the understanding that the MCPF formulas for each tax instrument are partially a function of the government's choices with respect to other tax instruments.<sup>54</sup>

Like this Article, some of the papers in the prior MCPF-based literature do model the MCPF formulas for specific tax instruments as

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<sup>51</sup> See Subsection II.C.1. The term “porous” here is used to indicate when tax instruments contain holes that can be exploited through tax gaming responses.

<sup>52</sup> See Nathaniel Hendren, *The Policy Elasticity 4-5* (Nat'l Bureau Econ. Research, Working Paper No. 19,177, 2013), available at <http://www.nber.org/papers/w19177.pdf>. The MCPF concept is highly related to the marginal efficiency cost of public funds (MECF) concept, with the major difference being that the MCPF is understood to potentially include distributional implications, whereas the MECF does not. See Weisbach, note 2, at 49 n.109.

<sup>53</sup> See Hendren, note 52, at 11.

<sup>54</sup> See notes 161 and 292; see also Hendren, note 52, at 2-15. For further discussion of the limits of existing MCPF- and MECF-based approaches, see Alex Raskolnikov, *Accepting the Limits of Tax Law and Economics*, 98 *Cornell L. Rev.* 523, 583-85 (2013).

being contingent on the government's policy choices with regard to other tax instruments—such as the work of Chris Sanchirico.<sup>55</sup> However, these prior MCPF-based approaches are too general in construction to shed much light on most optimal-choice-of-tax-instruments questions based on the empirical information available to legal scholars.<sup>56</sup> As David Weisbach explains, the prescriptions generated by these approaches “are qualitatively similar to the ones just discussed in the sense that we do not end up with simple pro-poor commodity taxes. . . . In all of the models, the core distributive tool is the labor income tax [or progressive consumption tax], complemented by various taxes or subsidies on goods or factors based on subtle interactions with the [labor income tax or progressive consumption tax].”<sup>57</sup>

For instance, Sanchirico's framework differs from the double-distortion approach primarily by relaxing the assumptions that taxpayers are homogeneous except in their ability to earn labor income and that taxpayers' preferences are weakly separable in labor and consumption.<sup>58</sup> Accordingly, Sanchirico's framework is based on analyzing (at a general level) what information a tax instrument is capable of revealing about taxpayers beyond the information elicited by other tax instruments.<sup>59</sup> The primary implications of Sanchirico's framework are thus that the government should make use of every tax instrument that is capable of eliciting unique information and that the govern-

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<sup>55</sup> Note that Sanchirico expresses his version of the MCPF through the related concept of the “revenue price of redistribution.” Sanchirico, note 33, at 155.

<sup>56</sup> Beyond Sanchirico's work, the MCPF framework that is most similar to this Article's approach is the one developed in a recent (and as-of-yet unpublished) paper by Nathaniel Hendren, note 52. Hendren's framework requires estimating a unique MCPF for each tax instrument—an MCPF that is contingent on the status-quo setting for all other government policies. By comparing these unique MCPFs, Hendren's framework can evaluate whether an incremental policy change would enhance welfare. But Hendren's framework cannot be applied without quantitative estimates for the unique MCPFs of every tax instrument that the government is considering adjusting. Even then, because Hendren's framework relies on the envelope theorem, it has limited ability to make prescriptions except for infinitesimally small changes from the margin, without further assumptions, as discussed in note 228. Consequently, with respect to many (but not necessarily all) optimal-choice-of-tax-instruments questions, this Article's framework should be better tailored to express its key parameters in a form either for which empirical information is likely to be available or for which legal scholars are likely to be able to make predictions based on inductive inferences derived from experience with real world tax instruments. These conclusions also generally apply to comparing this Article's framework to Joel Slemrod and Shlomo Yitzhaki's MCPF-based framework, which is similar to Hendren's framework in key respects. See Joel Slemrod & Shlomo Yitzhaki, *The Costs of Taxation and the Marginal Efficiency Cost of Funds*, 43 IMF Staff Papers 172, 183-89 (1996).

<sup>57</sup> David Weisbach, *Distributionally-Weighted Cost Benefit Analysis: Welfare Economics Meets Organizational Design* 28-29, U. Chicago, Public Law Working Paper No. 478, (2014), at, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2450142](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2450142).

<sup>58</sup> For further discussion, see Subsection II.A.1.

<sup>59</sup> See Sanchirico, note 33, at 209-16.

ment should make use of each such tax instrument so as to best take advantage of the unique information that the instrument is capable of eliciting.<sup>60</sup> Yet although these implications are certainly correct on a general level, Sanchirico's framework is not well suited for analyzing real world policy questions, except perhaps through the use of large scale computer models of the sort that are maintained by a few government agencies and think tanks.<sup>61</sup> For example, although Sanchirico argues that governments should make use of the information that can be elicited by including capital income as a tax-base attribute, Sanchirico acknowledges that his framework cannot prescribe whether capital income should be taxed or subsidized.<sup>62</sup>

More generally, Sanchirico's framework is designed for the purpose of demonstrating that optimal tax systems should be tailored to take account of a variety of informational attributes about taxpayers. Sanchirico is clear that his analyses to date "provides little if any insight into *how* such attributes should be included" in the design of tax systems.<sup>63</sup> In other words, Sanchirico's goal is to argue that double-distortion models should not be relied upon, but Sanchirico does not proceed to prescribe what approach should be used in place of double-distortion models. Thus, for instance, although Sanchirico's framework prescribes that overall distortionary costs could be reduced by *either positively taxing or subsidizing* various luxury commodities (such as yachts), Sanchirico's framework does not prescribe whether yachts or other luxury commodities should be positively taxed or subsidized in order to reduce overall distortionary costs.<sup>64</sup>

In contrast, this Article develops a theoretical framework constructed for the purpose of analyzing real world policy questions.<sup>65</sup> This Article's framework is more encompassing than are double-distortion models, as it is designed to incorporate key considerations needed for meaningful welfare analysis—especially tax gaming distortions and administrative and compliance costs. Yet this Article's framework is also designed so as to enable legal scholars to make at least some limited baseline predictions about how tax instruments should be used, even in the absence of comprehensive empirical information about all of the potentially relevant parameters.

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<sup>60</sup> See *id.* at 209.

<sup>61</sup> See *id.* at 225. In other words, prescribing that governments should make use of all of the information that can reasonably be elicited does not in and of itself inform as to how governments should elicit and make use of information, especially considering that it is often costly to elicit additional information.

<sup>62</sup> *Id.* at 224.

<sup>63</sup> *Id.* at 158.

<sup>64</sup> *Id.*

<sup>65</sup> For further discussion of the connections between this Article and Sanchirico's work, see Subsection III.A.1.

It is ultimately difficult to concisely explain the differences between this Article's approach and other MCPF-based approaches, because these other approaches are complicated and difficult to explain in their own right. Nevertheless, the key differences can be summarized as (1) that this Article's framework specifically focuses on exploring the implications of tax gaming responses, and (2) that—based on the implications of tax gaming responses—this Article's approach implies that overall distortionary costs could be reduced by supplementing a labor income tax by *positively taxing* yachts and other luxury commodities.

To summarize, if the government's only concerns were to raise revenues and to promote distributional equity while minimizing overall distortionary costs, then:

(1) the double-distortion approach suggests that the government should *neither positively tax nor subsidize* most luxury commodities, based on the assumptions that (first) labor-to-leisure distortions are the only distortionary response induced by a labor income tax, (second) that taxpayers are homogeneous except in their ability to earn labor income, and (third) that taxpayers' preferences are weakly separable in labor and consumption;

(2) Sanchirico's approach suggests that the government should *either positively tax or subsidize* most luxury commodities, based on relaxing the second and third of these assumptions; and

(3) this Article's approach suggests as a baseline that governments should *positively tax (and not subsidize)* most luxury commodities, based on relaxing the first of these assumptions.

Of course, a government may have concerns other than minimizing overall distortionary costs. Accordingly, this Article's framework further muddies the waters by also evaluating administrative and compliance costs. Nevertheless, as applied to the question of whether legal rules should be adjusted so as to promote distribution, this Article's framework provides a baseline for assessing the direction in which these adjustments should be made. This is in contrast to Sanchirico's approach and to other prior MCPF-based approaches, which do not provide such a baseline.

This Article proceeds in two parts: First, Part II develops a theoretical framework for analyzing optimal-choice-of-tax-instruments questions. Second, Part III evaluates the implications of relaxing some of the key assumptions underlying that theoretical framework, and then applies the theoretical framework to the question of whether legal rules should be designed to promote distributional equity.

This Article is the first portion of a two-part project. Whereas this Article analyzes incremental reforms, the forthcoming companion ar-

ticle expands the discussion to consider fundamental reforms. To that end, it builds on this Article's analysis by evaluating the relevant empirical literatures and then by applying this Article's framework to a number of important tax policy debates—focusing on the use of labor income taxes, value added taxes, capital income taxes, and wealth taxes.<sup>66</sup>

## II. DEVELOPING THE THEORETICAL FRAMEWORK

As typically conceived, a fundamental problem of public finance imagines that the government wishes to transfer resources from high-ability taxpayers to low-ability taxpayers, but that taxpayers can employ techniques to conceal their ability from the government.<sup>67</sup> "High ability" in this context simply refers to those taxpayers from whom the government wishes to transfer resources—following the pre-specified social welfare weights—with "low ability" then referring to those taxpayers to whom the government wishes to transfer resources.<sup>68</sup> One might thus think of the term "ability" as shorthand for ability to pay.

When taxpayers act to conceal their ability from the government, the government loses out because less revenue is collected, and the taxpayers also lose out because they are assumed to incur costs in order to conceal their ability.<sup>69</sup> The social welfare losses that result from taxpayers incurring costs in order to conceal their ability from the government are often called "excess burden," "deadweight loss," or "distortionary costs."

A government could minimize distortionary costs by levying only lump sum taxes (sometimes called head taxes)—whereby each taxpayer would be assessed a fixed tax liability, the amount of which

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<sup>66</sup> Gamage, note 13.

<sup>67</sup> Throughout this Part, I reframe descriptions of basic public finance theorems in terms that apply to all distortionary taxpayer responses, rather than (as is typically done) focusing exclusively on responses wherein taxpayers substitute leisure for labor or substitute away from purchasing taxed goods. Later, I evaluate possible ways in which tax gaming distortionary responses may have different social welfare implications from more traditional responses (like labor-to-leisure distortions). See Section III.A. In Part II, I simply assume that tax gaming distortionary responses do not involve significant externalities, salience effects, or political economy considerations, and that taxpayers have well-behaved utility and cost functions with respect to tax gaming distortions.

<sup>68</sup> In other words, the term "ability" is not meant to convey any notions of desert or merit.

<sup>69</sup> For instance, taxpayers can conceal their ability through labor-to-leisure substitutions, because the government cannot easily distinguish taxpayers who have less ability to earn income from taxpayers who choose to earn less income as a result of working less as a response to taxation. The costs taxpayers incur from labor-to-leisure substitutions arise because taxpayers are assumed to derive less utility from the leisure than from the purchased consumption forgone in response to taxation.

would not vary based on any choices made by the taxpayer.<sup>70</sup> The reason governments do not typically levy lump-sum taxes is distributional equity.<sup>71</sup> For instance, it would strike many as unfair for a government to demand a \$10,000 tax payment from every citizen, when some citizens earn only a few thousand dollars a year whereas others earn millions. Optimal tax theory thus revolves around the question of how to maximize the trade-off between distributional equity and efficiency.

To be clear, much of optimal tax theory scholarship analyzes how governments should raise revenue to fund the provision of public goods.<sup>72</sup> But even here, distributional equity remains a key concern. Again, for governments unconcerned about distributional equity, optimal tax theory scholarship implies that all revenue should be raised through lump sum taxes. Thus, questions of how governments should depart from using lump sum taxes when raising revenue are ultimately questions about distributional equity—and, more generally, about the trade-offs among distributional equity, efficiency, and other policy concerns.

With that background, I proceed to evaluate double-distortion arguments. Much of the foundational work that double-distortion arguments build upon begins by considering the question of whether luxury goods purchases should be subject to higher tax rates than non-luxury goods purchases.<sup>73</sup> In other words, should governments promote distributional equity by levying luxury excise taxes? Or should distributional equity instead be promoted by taxing labor income at progressive rates?

Correspondingly, this Part develops a theoretical framework for analyzing optimal-choice-of-tax-instruments questions by focusing on the problem of whether governments should levy luxury excise taxes. In doing so, this Part relies on most of the same assumptions that underlie double-distortions models. Thus, this Part does not consider complications such as taxpayer heterogeneity other than in earning ability, nonseparable preferences in labor and consumption, non-well-behaved utility or cost functions, externalities, tax salience effects, po-

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<sup>70</sup> Real world attempts at head taxes probably would not completely eliminate distortions, as taxpayers might respond (for example) by moving out of the tax jurisdiction. Nevertheless, there is little doubt that governments could shift to raising revenue through tax instruments that come much closer to approximating lump sum taxes than do current tax systems.

<sup>71</sup> See Louis Kaplow, *Accuracy, Complexity, and the Income Tax*, 14 *J.L. Econ. & Org.* 61, 61 (1998).

<sup>72</sup> Kaplow, note 16, at 53.

<sup>73</sup> See, e.g., Alan J. Auerbach & James R. Hines Jr., *Taxation and Economic Efficiency* 54 (Nat'l Bureau Econ. Research, Working Paper No. 8181, 2001), available at <http://www.nber.org/papers/w8181.pdf>.

litical economy considerations, cross elasticities, general equilibrium effects, income effects, nonwelfarist considerations, or other complications that might result from relaxing the assumptions underlying double-distortion models or microeconomic analyses more generally.<sup>74</sup> Some of these complications are analyzed later in Section III.A. For now, however, it is useful to stick as closely as possible to the assumptions underlying double-distortion models, relaxing these assumptions only by considering a wider variety of distortionary costs as well as administrative and compliance costs.

Before proceeding, it is worth emphasizing that before this Article's framework can be applied, the analyst must first determine which tax instruments are to be evaluated.<sup>75</sup> Because any policy variable that a government might adjust to raise revenues or promote distributional equity can be thought of as a tax instrument, there are potentially an infinite number of tax instruments that might be analyzed.<sup>76</sup> Yet this Article's framework is only designed to compare a discrete number of tax instruments.<sup>77</sup> This Part focuses on comparing the setting of tax rates for labor income taxes and for luxury excise taxes, holding the tax base calculation rules for each of these forms of taxation constant. This Article's framework can also be applied to analyze a variety of other policy problems, and the forthcoming companion article discusses further some of the issues involved in determining which tax instruments are to be evaluated.

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<sup>74</sup> For discussions of these complications, see, e.g., Kaplow, note 16, at 119-20, 135-45 (general equilibrium effects, tax salience effects—called “taxpayer illusion,” externalities, political economy considerations, preferences nonseparable in labor and consumption, taxpayer heterogeneity); Thomas Piketty & Emmanuel Saez, *Optimal Labor Income Taxation*, 5 *Handbook Pub. Econ.* 391, 393, 459 (Alan J. Auerbach, Raj Chetty, Martin Feldstein & Emmanuel Saez eds., 2013) (taxpayer heterogeneity and nonwelfarist effects).

<sup>75</sup> In a sense, then, what counts as a “tax instrument” for the application of this Article's framework depends on what policy variables the analyst wishes to evaluate while holding other aspects of policy constant. Because it is impossible to simultaneously analyze an infinite number of policy variables, the analyst must choose which variables to evaluate and which other potential variables to hold constant, for any particular application of this Article's framework.

<sup>76</sup> For ease of exposition, in this Part, I mostly focus on comparing the setting of tax rates for different forms of taxation (holding the tax base calculation rules of these forms of taxation constant). But this Article's framework can also be applied to analyze whether tax base calculation rules should be adjusted so as to raise revenue or promote distributional equity. The forthcoming companion article discusses these issues further. Gamage, note 13.

<sup>77</sup> More precisely, this Article's framework is only designed to analyze the optimal use of a discrete number of tax instruments in any single iteration of applying this framework. Through repeated iterations, the framework potentially can be used to evaluate a variety of alternative tax reform packages. For further discussion, see *id.*

### A. *Understanding the Foundational Ramsey and Atkinson-Stiglitz Models*

Public finance economists have developed two different foundational models for analyzing optimal-choice-of-tax-instruments questions: the Ramsey model and the Atkinson-Stiglitz model.<sup>78</sup> Based on the logic of double-distortion arguments, it has become accepted wisdom in some circles that the Ramsey model does not apply to optimal-choice-of-tax-instruments questions when a government can levy a labor income tax.<sup>79</sup> I argue in this Section that this accepted wisdom is partially mistaken. Once we account for the possibility of tax gaming responses, a variation of the Ramsey model becomes relevant even when governments can levy a labor income tax.

#### 1. *The Ramsey Model*

The archetypal setting in which the Ramsey model is thought to apply is when a government cannot levy a labor income tax or a progressive consumption tax and must instead raise revenue and promote distributional equity through excise taxes assessed on the purchases of goods and services.<sup>80</sup> Thus, even the scholars most associated with double-distortion arguments acknowledge that a modified form of the Ramsey model may be applicable in developing countries if it is impractical to rely on labor income taxes.<sup>81</sup>

Three general prescriptions follow from the basic Ramsey model.<sup>82</sup> I label these prescriptions as “the elasticity principle,” “the tax-smoothing principle,” and “the distribution principle.”

The first general prescription—the elasticity principle—implies that lower tax rates should be assessed on those goods and transactions for which taxpayers are most likely to alter their behavior in response to taxation. Elasticities are formulas for measuring the extent to which taxpayers engage in additional distortionary tax-reduction behaviors in response to increasing tax rates. All else being equal, the more elastic the tax-reduction behaviors induced by a tax instrument, the greater the distortionary costs that will be generated by increasing the tax rate of the instrument. In order to minimize distortionary costs,

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<sup>78</sup> More complete expositions of these models can be found at, for example, Kaplow, note 16, at 122-33, and Auerbach & Hines, note 73, at 15-21.

<sup>79</sup> See Kaplow, note 16, at 145 (“[I]t is useful to set forth this conflict and to explain why the use of Ramsey principles is inappropriate when there is an income tax.”).

<sup>80</sup> For an excellent and more elaborate discussion of the Ramsey model, written so as to be accessible to legal scholars, see Weisbach, note 7, at 1655-63.

<sup>81</sup> Kaplow, note 16, at 148; see also note 43 (citing the literature on applying optimal tax theory in developing country contexts).

<sup>82</sup> More sophisticated versions of the Ramsey model allow for cross elasticities and other complications that I assume away in this Part in order to simplify the discussion.

then, the elasticity principle implies that lower tax rates should be set for tax instruments that induce more elastic tax-reduction behaviors. Conversely, the elasticity principle implies that higher tax rates should be set for tax instruments that induce less elastic tax-reduction behaviors. In other words, we should tax more those goods and transactions for which taxpayers are less likely to alter their behavior in response to taxation.

The second general prescription—the tax-smoothing principle—implies that it “is better to tax a wide variety of goods at a moderate rate rather than to tax very few goods at a high rate.”<sup>83</sup> As noted earlier, a basic principle of public finance economics is that the distortionary costs generated by a tax instrument rise approximately with the square of the relevant (tax-exclusive) tax rates.<sup>84</sup> This principle follows from the assumption that utility and cost functions are “well-behaved” in the sense that taxpayers are assumed to face continuously increasing marginal costs to altering their behavior so as to reduce their tax liabilities.<sup>85</sup> The underlying intuition is that low tax rates should only induce taxpayers to alter their behavior if the costs of doing so are low, whereas higher tax rates should induce taxpayers to alter their behavior even when the costs of doing so are higher—with taxpayers generally assumed to alter their behavior up to the point where the marginal costs of doing so equal the relevant tax rates.<sup>86</sup> Consequently, increasing tax rates has the effects both of increasing the quantity of tax-reduction behaviors and of inducing more costly tax-reduction behaviors at the margin.

If the marginal costs of tax-reduction behaviors rise linearly, then we can think of the deadweight loss associated with the costs that taxpayers incur in altering their behavior as the area of a triangle. Because the tax rate affects both the base of this triangle (by altering the quantity of tax-reduction behaviors) and the height of this triangle (by inducing more costly tax reduction behaviors at the margin), and because the formula for the area of a triangle is  $1/2 \times \text{base} \times \text{height}$ , the

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<sup>83</sup> Jonathan Gruber, *Public Finance and Public Policy* 603 (4th ed. 2013). Gruber calls this the “broad base rule.” My terminology follows Bernard Salanie, *The Economics of Taxation* 54-55 (2003).

<sup>84</sup> See note 46 and accompanying text.

<sup>85</sup> See Subsection III.A.2.

<sup>86</sup> This intuition is most commonly expressed in the context of taxpayers substituting away from purchasing taxed goods, or substituting leisure for labor, with the costs that taxpayers incur to reduce their tax liabilities thus arising from forgone consumer surplus. But this intuition also applies to tax gaming behaviors as long as taxpayers decide whether to engage in these behaviors at least partially based on some form of cost-benefit analysis and as long as taxpayers first engage in less costly tax-reduction techniques and proceed to more costly tax-reduction techniques only once the less costly techniques have been exhausted. For further discussion, see Subsection III.A.2.

distortionary costs of taxation should rise precisely with the square of the relevant tax rates whenever taxpayers face linearly increasing marginal costs to tax-reduction behaviors.<sup>87</sup> I call this the “rule-of-thumb version” of the tax-smoothing principle.<sup>88</sup> More generally, as long as taxpayers’ marginal costs of engaging in tax-reduction behaviors rise continuously, it mathematically follows that distortionary costs rise exponentially with the relevant tax rates, with the exponent depending on the curvature of taxpayers’ marginal cost functions.<sup>89</sup>

The tax-smoothing principle provides the primary economic logic for base-broadening arguments—for the prescriptions that tax systems should have broad bases and low rates.<sup>90</sup> I evaluate the assumption that taxpayers face continuously increasing marginal costs to engaging in tax-reduction behaviors further in Subsection III.A.2. For now, I simply assume that taxpayers’ utility and cost functions are well-behaved in this sense, such that the tax-smoothing principle follows with respect to all tax-reduction behaviors.<sup>91</sup>

Together, the elasticity principle and the tax-smoothing principle generate what is commonly referred to as the “inverse-elasticity rule.”<sup>92</sup> Whereas the elasticity principle implies that higher tax rates should be set for tax instruments that induce less elastic tax-reduction behaviors, the tax-smoothing principle implies that these tax rates should not be set too much higher because increasing a tax instrument’s rates induces exponentially greater distortionary costs. Within the basic Ramsey model, balancing the implications of these two prescriptions generates the formula that overall distortionary costs can be minimized by setting each instrument’s tax rates proportional to one divided by the instrument’s elasticity.<sup>93</sup> No matter how large the elasticity in the denominator, then, dividing a numerator of one by the

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<sup>87</sup> For illustration, see Gamage, note 13, at 9-14.

<sup>88</sup> For discussion of why the case for levying multiple tax instruments generally should be much stronger than what is implied by the rule-of-thumb version of the tax-smoothing principle, see Subsection II.C.2.

<sup>89</sup> E.g., Harvey S. Rosen & Ted Gayer, *Public Finance* 332-33 (10th ed. 2014); Auerbach & Hines, note 73, at 94; John Creedy, *The Excess Burden of Taxation and Why it (Approximately) Quadruples When the Tax Rate Doubles 3* (New Zealand Treas., Working Paper 03/29, 2003), available at <http://www.treasury.govt.nz/Publications/research-policy/wp/2003/03-29/twp03-29.pdf>.

<sup>90</sup> Creedy, note 89, at 3.

<sup>91</sup> This assumption follows from seminal work by Martin Feldstein, which spurred the development of a literature analyzing taxable-income elasticities and which Raj Chetty has described as being among the foundational work applying sufficient-statistics methodology to taxation. For further discussion, see Chetty, note 22, at 467-70; Martin Feldstein, *Tax Avoidance and the Deadweight Loss of the Income Tax*, 81 *Rev. Econ. & Stat.* 674, 674 (1999).

<sup>92</sup> Gruber, note 83, at 602-03.

<sup>93</sup> See *id.*

elasticity always yields a positive tax rate.<sup>94</sup> Extremely large elasticities will yield low tax rates, but the tax rates should always be positive for all available tax instruments. Therefore, a government following the basic Ramsey model should make use of every possible tax instrument. Only when the Ramsey model is expanded to incorporate complicating factors such as administrative or compliance costs does the Ramsey model yield prescriptions wherein a government should not make use of every available tax instrument.<sup>95</sup>

The third general prescription—the distribution principle—implies that governments should depart from the inverse-elasticity rule by setting higher tax rates for those tax instruments that disproportionately raise revenues from taxpayers with greater ability.<sup>96</sup> The inverse-elasticity rule prescribes how a government should set tax rates in order to minimize distortionary costs and thereby maximize efficiency. But if a government cared only about efficiency, and not distribution, then lump sum taxes would dominate all taxes assessed on goods and transactions, such that the Ramsey model would not apply.<sup>97</sup> Distribution thus must be a key concern when applying the Ramsey model. The distribution principle reminds us that we need to depart from the efficiency-maximizing prescriptions of the inverse-elasticity rule in order to promote distributional equity. The extent to which the Ramsey model prescribes departing from the inverse-elasticity rule in order to promote distributional equity is determined by the pre-specified social welfare weights.<sup>98</sup>

## 2. *The Atkinson-Stiglitz Model*

To the extent that the Ramsey model is applicable, the case for employing a variety of tax instruments to raise revenue or to promote distributional equity is relatively straightforward. Although the elasticity and distribution principles imply that tax rates should be set higher for some tax instruments than for others, the tax-smoothing

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<sup>94</sup> The exception being if the elasticity is infinite—implying that the tax instrument is not capable of raising any amount of positive revenue.

<sup>95</sup> For a paper that incorporates administrative and compliance costs into the Ramsey model, see generally Joel Slemrod & Wojciech Kopczuk, *The Optimal Elasticity of Taxable Income*, 84 *J. Pub. Econ.* 91 (2002).

<sup>96</sup> See, e.g., Gruber, note 83, at 603.

<sup>97</sup> See notes 70–72 and accompanying text.

<sup>98</sup> Alternatively, Nathaniel Hendren has demonstrated in a recent paper how the government's distributional goals can be inferred from the state of the existing tax system—without the need for a social-welfare function—at least with respect to reforms that take the existing tax system as a starting point. Nathaniel Hendren, *The Inequality Deflator: Interpersonal Comparisons Without a Social Welfare Function* 2 n.2, 3 & n.6 (July 2014) (unpublished manuscript), available at [http://scholar.harvard.edu/files/hendren/files/in\\_equality\\_deflator\\_vnber.pdf](http://scholar.harvard.edu/files/hendren/files/in_equality_deflator_vnber.pdf).

principle still implies that every tax instrument should be levied with a positive tax rate.<sup>99</sup>

The Atkinson-Stiglitz model, however, demonstrates that some tax-reduction behaviors may operate differently from the assumptions of the Ramsey model.<sup>100</sup> The Atkinson-Stiglitz model differs from the Ramsey model in two key respects.<sup>101</sup> First, the Atkinson-Stiglitz model introduces a form of consumption—called “leisure”—that is assumed to be exempt from taxation under all possible tax instruments. Second, the Atkinson-Stiglitz model allows the government to promote distributional equity by setting progressive tax rates for an instrument called “a labor-income tax”—a tax instrument that is assumed to induce only tax-reduction responses that operate like labor-to-leisure distortions.

Under the assumptions of the Atkinson-Stiglitz model, conducting distribution through a labor income tax dominates conducting distribution through luxury excise taxes, such that the general prescriptions of the Ramsey model do not apply.<sup>102</sup> To illustrate, imagine that a government can levy both a labor income tax and a separate set of excise taxes. Assume that taxpayers have only two techniques available for minimizing their tax liabilities. First, taxpayers can shift from spending their time earning labor income to enjoying leisure. To the extent that taxpayers earn labor income, this income will be subject to the labor income tax when the taxpayers earn the income and will also be subject to the excise taxes when the taxpayers spend their income. Hence, by shifting from labor to leisure, taxpayers can minimize their tax liabilities under both the labor income tax and the excise taxes.

The second technique that taxpayers can use to minimize their tax liabilities is to shift from purchasing higher-taxed consumer goods to purchasing lower-taxed consumer goods. This technique is only available to the extent that the government levies higher taxes on some consumer goods than on others (as is prescribed by the elasticity and distribution principles of the Ramsey model).

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<sup>99</sup> Note that this conclusion depends on the assumptions of this Section, which are relaxed in Section III.A.

<sup>100</sup> See Kaplow, note 16, at 123-35.

<sup>101</sup> Note that there are many variations of the Ramsey model, some of which incorporate features of the Atkinson-Stiglitz model as discussed above. See, e.g., Louis Kaplow, Taxation, in 1 *Handbook of Law and Economics* 647, 676-77 (A. Mitchell Polinsky & Steven Shavell eds., 2007). The above discussion is intended to explain the basics of the Atkinson-Stiglitz and Ramsey models to readers who are not already versed in the relevant economics literatures.

<sup>102</sup> Kaplow, note 16, at 123-35.

In contrast to the Ramsey model, the Atkinson-Stiglitz model prescribes against taxing the consumer goods at differential rates.<sup>103</sup> The intuition underlying this result is that taxing consumer goods at differential rates generates two distortions, as taxpayers can respond both by shifting from consuming higher-taxed goods to lower-taxed goods and by shifting from earning labor income to leisure. Importantly, under the assumptions of the Atkinson-Stiglitz model, any set of tax rates levied on consumer goods will generate exactly the same magnitude of labor-to-leisure distortions as would a labor income tax, in addition to possibly also distorting taxpayers' choices of which consumer goods to purchase.<sup>104</sup> Consequently, instead of taxing goods that are disproportionately consumed by higher-ability taxpayers at higher rates, more distributional equity can be achieved at lower efficiency costs by making the labor-income-tax rates more progressive. For this reason, the Atkinson-Stiglitz model prescribes that all distributional equity should be promoted through the labor income tax.

### 3. *The Distinction between Multi-Instrument and Single-Instrument Responses*

The Atkinson-Stiglitz model is sometimes described as illustrating the relationship between specific real world tax instruments, such as between real world labor income taxes and luxury excise taxes. As this Section attempts to make clear, however, it is a mistake to apply the Atkinson-Stiglitz model to real world tax instruments without first evaluating the nature of the distortions generated by the real world tax instruments.

All real world tax instruments are at least somewhat porous, in the sense that taxpayers can be expected to respond to all real world tax instruments through a diverse variety of distortionary tax-reduction behaviors.<sup>105</sup> Some tax-reduction responses allow taxpayers to simultaneously reduce their tax liabilities with respect to multiple distinct tax instruments. I label these distortionary tax-reduction behaviors as "multi-instrument" responses.<sup>106</sup> Other tax-reduction responses only allow taxpayers to reduce their tax liabilities with respect to a single

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<sup>103</sup> See Louis Kaplow, *On the Desirability of Commodity Taxation Even When Income Taxation Is Not Optimal*, 90 *J. Pub. Econ.* 1235, 1236 (2006).

<sup>104</sup> See note 28 and accompanying text. Notably, this result depends on the assumptions that taxpayers are homogeneous except in their ability to earn labor income and that taxpayers' preferences are weakly separable in labor and consumption, as discussed in Subsection III.A.1.

<sup>105</sup> See Subsection II.C.1.

<sup>106</sup> Alternatively, these responses might be labeled as "common" responses.

tax instrument. I label these distortionary tax-reduction behaviors as “single-instrument” responses.<sup>107</sup>

When comparing two tax instruments, it is important to distinguish between multi-instrument and single-instrument responses. For instance, under the assumptions of the Atkinson-Stiglitz model, labor-to-leisure distortions are multi-instrument responses for both a labor income tax and excise taxes. A taxpayer can simultaneously reduce her tax liability from both of these tax instruments through substituting leisure for labor, and the taxpayer’s incentive to substitute leisure for labor is thus a direct function of the tax rates of both of these instruments. In contrast, as noted earlier, the incentive to claim artificial or inflated labor income tax deductions is a direct function of only the tax rates of the labor income tax.<sup>108</sup> Claiming artificial labor income tax deductions is thus a single-instrument response for the labor income tax, as compared to excise taxes.

A corollary to the assumption that taxpayers’ utility and cost functions are well-behaved is that taxpayers must incur costs in order to engage in tax-reduction responses, at least at the margin.<sup>109</sup> Whether a tax-reduction response operates as a multi-instrument or as a single-instrument response thus depends on the nature of the marginal costs that taxpayers must incur in order to engage in the response.

For multi-instrument responses, taxpayers need only incur one set of costs in order to reduce their tax liabilities with respect to multiple tax instruments. In other words, by incurring costs in order to reduce their liabilities from one tax instrument, taxpayers can also simultaneously reduce their tax liabilities from another tax instrument at no additional cost. For instance, the costs taxpayers incur when engaging in labor-to-leisure distortions arise from the diminished utility the taxpayers receive from the leisure consumption as compared to the market consumption that the taxpayers would have opted for in the absence of taxation. Because leisure consumption is assumed to be exempt from both labor income taxes and excise taxes, incurring the costs associated with the reduced utility received from the leisure consumption simultaneously enables taxpayers to reduce their labor income tax liabilities and excise tax liabilities at no additional cost.

For single-instrument responses, taxpayers need to incur multiple sets of costs in order to reduce their tax liabilities from multiple tax instruments. In other words, taxpayers who incur costs in order to reduce their tax liabilities from one tax instrument cannot also simultaneously reduce their tax liabilities from another tax instrument, un-

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<sup>107</sup> Alternatively, these responses might be labeled as “unique” responses.

<sup>108</sup> See notes 38–39 and accompanying text.

<sup>109</sup> For elaboration, see Subsection III.A.2.

less the taxpayers incur additional costs to do so. For instance, consider taxpayers who change their behavior at some cost in order to claim artificial labor income tax deductions, such as by reorganizing their activities in order to claim home office deductions for rooms in the taxpayers' houses.<sup>110</sup> Assuming that the manner in which the taxpayers reorganize their activities in order to claim the home office deductions does not somehow also allow the taxpayers to reduce their excise tax liabilities at no additional cost, these changes of behavior would constitute single-instrument responses for the labor income tax. Certainly, the taxpayers might also change their behavior in other ways in order to reduce their excise tax liabilities. But doing so would require the taxpayers to incur additional costs. Nearly every conceivable tax instrument is likely to induce some single-instrument responses. But taxpayers must incur separate sets of costs in order to engage in single-instrument responses with respect to each distinct tax instrument.

#### 4. *The Specification of Distortions in the Atkinson-Stiglitz Model*

The reason that labor income taxes dominate excise taxes within the Atkinson-Stiglitz model is that labor income taxes are assumed to induce only multi-instrument responses whereas excise taxes are assumed to induce both multi-instrument and single-instrument responses. In other words, as typically conceived, double-distortion models make the unrealistic assumption that taxpayers can only reduce their labor-income-tax liabilities through responses that operate like labor-to-leisure distortions.

It is illuminating to consider an alternative set of (admittedly unrealistic) assumptions. Assume that a government wishes to raise additional revenue from high-income taxpayers for distributive purposes and is considering levying either a labor income tax or luxury excise taxes. Further assume that there are only two techniques available through which taxpayers can reduce their tax liabilities. First, taxpayers can shift from labor to leisure, which reduces their tax liabilities under both the labor income tax and the luxury excise taxes. Second, taxpayers can claim artificial labor income tax deductions, which reduces their tax liabilities only with respect to the labor income tax and not with respect to the luxury excise taxes.

Under these assumptions, the labor income tax would generate a double-distortion whereas the luxury excise taxes would generate only a single distortion. To the extent the government raises revenues

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<sup>110</sup> For discussion, see Michael A. Livingston & David S. Gamage, *Taxation: Law, Planning, and Policy* 349-66 (2010).

through the labor income tax, taxpayers could respond both by shifting from labor to leisure and by claiming artificial labor income tax deductions. In contrast, to the extent the government raises revenue through the luxury excise taxes, taxpayers could respond only by shifting from labor to leisure. Therefore, as applied to this scenario, the Atkinson-Stiglitz model potentially implies that all distribution should be conducted through the luxury excise taxes and not through the labor income tax. Of course, it is completely unrealistic to assume that taxpayers could not shift away from making luxury purchases so as to minimize their luxury excise tax liabilities (as this example assumes), but it is also unrealistic to assume that taxpayers cannot reduce their labor income tax liabilities through any techniques other than labor-to-leisure substitutions (as double-distortion arguments assume).

##### 5. *A Simple Argument for Levying Multiple Tax Instruments*

In real world contexts, it almost certainly will be the case both that a labor income tax will induce some distortionary responses that would not be induced by luxury excise taxes and that luxury excise taxes will induce some distortionary responses that would not be induced by a labor income tax. As compared to using only a labor income tax for distribution, levying luxury excise taxes should avoid inducing at least some distortionary responses wherein taxpayers would engage in transactions like claiming artificial or inflated labor income tax deductions. Yet levying luxury excise taxes should also induce at least some distortions wherein taxpayers would shift away from making luxury purchases or would claim artificial or inflated deductions against the luxury excise taxes. In addition, some distortions, such as labor-to-leisure substitutions, might be induced by both the luxury excise taxes and the labor income tax. In other words, both luxury excise taxes and labor income taxes are likely to induce both multi-instrument and single-instrument responses.

Turning to the question of whether a government should levy a labor income tax, luxury excise taxes, or some mixture of these tax instruments: First, based on the logic of the Atkinson-Stiglitz model, we can factor out labor-to-leisure distortions and any other multi-instrument responses. By definition, multi-instrument responses are equally induced by all of the available tax instruments. And distortions that would be induced regardless of which tax instruments are used are not relevant for determining which tax instruments to use.

Factoring out the multi-instrument responses leaves the single-instrument responses. In other words, one must balance the distortions that would be induced by the labor income tax, but not by the luxury

excise taxes, against the distortions that would be induced by the luxury excise taxes, but not by the labor income tax.

To analyze these single-instrument responses, one can apply the three general prescriptions of the Ramsey model. The reason that the Ramsey model is thought not to apply when a government can levy a labor income tax is that labor income taxes are thought to dominate excise taxes. But once we factor out multi-instrument responses, labor income taxes do not dominate excise taxes to the extent that labor income taxes induce any single-instrument responses.

Remember that the tax-smoothing principle implies that the distortionary costs generated by a tax instrument rise exponentially with the relevant tax rates. Hence, when comparing multiple tax instruments each of which induces single-instrument responses, even if raising a fixed amount of revenue through one of the tax instruments would generate much lower distortionary costs than if that revenue was raised through any of the other tax instruments, it may still be optimal to levy all of the available tax instruments. The reason is that—following the tax-smoothing principle—raising a sufficiently small amount of revenue from any tax instrument generates trivially small distortionary costs. As one public finance textbook explains (in the context of comparing commodity taxes in the Ramsey model),

[I]t is better to tax many commodities at a lower rate than to tax a few commodities at a higher rate. . . . This is because . . . as the tax rate increases, excess burden goes up with its square. Doubling a tax quadruples its excess burden, other things being the same. Therefore, two relatively small taxes will have a smaller excess burden than one large tax that raises the same amount of revenue. . . .<sup>111</sup>

Or, as Alan Auerbach explains: “A key lesson of optimal tax theory is that the economic loss from a tax distortion grows with the square of the size of the distortion itself, so a lot of small tax wedges are better than a few large ones.”<sup>112</sup> Thus, from the starting point of raising all revenue through only one tax instrument, overall distortionary costs could always be reduced by lowering the tax rate of that instrument slightly and making up the revenue by levying the other tax instruments with low rates.

More generally, once we factor out multi-instrument responses, we can determine the optimal choice of tax instruments by applying the

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<sup>111</sup> Rosen & Gayer, note 89, at 333.

<sup>112</sup> Alan J. Auerbach, Comment, in *Taxing Capital Income* 83, 86 (Henry J. Aaron, Leonard E. Burman & C. Eugene Steuerle eds., 2007).

prescriptions of the Ramsey model.<sup>113</sup> Following the elasticity principle, lower tax rates should be set for the tax instruments that induce more elastic tax-reduction behaviors. Following the distribution principle, higher tax rates should be set for the tax instruments that raise a larger portion of revenues from higher ability taxpayers. Following the tax-smoothing principle (and ignoring administrative and compliance costs), it always will be optimal to make use of all available tax instruments, but how the tax rates should be set depends on the relative elasticities and distributional impacts of the available tax instruments.<sup>114</sup>

### *B. Incorporating Additional Categories of Social Welfare Costs*

The previous Section presented a simple version of this Article's primary contribution. Accounting for tax gaming responses, it will generally be the case that all available tax instruments will induce some unique distortionary responses that would not be induced by other available tax instruments. Ignoring administrative and compliance costs and other complications, then, an optimal tax system should make use of all available tax instruments and should set the tax rates in accordance with the three general prescriptions of the Ramsey model.

I have already introduced the distinction between single-instrument and multi-instrument responses. This Section expands the analysis to incorporate administrative and compliance costs (collectively labeled as "overhead costs") and also an additional category of distortionary costs related to taxpayers shifting their tax liabilities among tax instruments (labeled as "instrument-shifting" responses). The remainder of this Section analyzes the implications of these different categories of social welfare costs, with the goal of developing a theoretical framework capable for incorporating first-order concerns related to optimizing distribution and efficiency.

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<sup>113</sup> See e.g., Piketty & Saez, note 74, at 420-21.

<sup>114</sup> Even if raising  $x$  dollars from one tax instrument would generate far larger distortionary costs as compared to raising  $x$  dollars from another tax instrument, it would still be optimal to levy both tax instruments, but with the tax rates set much lower for the first instrument than for the second tax instrument. Because distortionary costs rise exponentially with the relevant tax rates, whereas revenues raised rise closer to linearly, minimizing overall distortionary costs always requires levying all available tax instruments with above-zero rates. Even for extremely distortionary tax instruments, levying such tax instruments with sufficiently low rates will always produce lower distortionary costs per dollar of tax revenue raised than would raising all revenue from tax instruments that are less distortionary on average. The only exceptions would be if a tax instrument were incapable of raising any revenue or would produce infinite average distortionary costs. For further elaboration, see, for example, Gruber, note 83, at 603. Note that this conclusion depends on the assumptions of this Section. See Subsection III.A.1.

### 1. *The Implications of Single-Instrument Responses*

A response to a tax instrument is single-instrument to the extent that the response reduces a taxpayer's tax liability from only the tax instrument in question, without directly affecting the taxpayer's liabilities from any other tax instruments. Following the Atkinson-Stiglitz model, for a government deciding between two tax instruments, if only one of the tax instruments generates single-instrument responses, and the other does not, then this places weight in favor of relying exclusively on the tax instrument that does not generate single-instrument responses.

The analysis becomes more complicated if all of the available tax instruments generate single-instrument responses, as generally will be the case. Yet, as explained earlier, the overall costs from single-instrument responses can be minimized by using all available tax instruments and by setting the tax rates in accordance with the three general prescriptions of the Ramsey model. There is an expansive literature analyzing how variations of the Ramsey model can be applied based on different complicating assumptions.<sup>115</sup> To the extent that the relevant social welfare costs of taxation arise from single-instrument responses, this literature can be applied to optimal-choice-of-tax-instruments questions even when the government can levy a labor income tax. More straightforwardly, the three general prescriptions of the basic Ramsey model can be used to make rule-of-thumb predictions for how to minimize the distortionary costs from single-instrument responses.

### 2. *The Implications of Multi-Instrument Responses*

A response to a tax instrument is multi-instrument to the extent that the response simultaneously reduces a taxpayer's tax liabilities from multiple distinct tax instruments at no additional cost to the taxpayer. Following the primary insight of the Atkinson-Stiglitz model, multi-instrument responses can be factored out when determining the optimal choice of tax instruments. When comparing two tax instruments, multi-instrument responses by definition will create the same social welfare costs regardless of which tax instruments are used and regardless of how the tax rates are set. Consequently, multi-instrument responses are not directly relevant for optimal-choice-of-tax-instruments questions.

Many tax-minimization strategies may operate as hybrids between multi-instrument and single-instrument responses. If taxpayers can al-

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<sup>115</sup> See, e.g., Daron Acemoglu, Mikhail Golosov & Aleh Tsyvinski, *Political Economy of Ramsey Taxation*, 95 *J. Pub. Econ.* 467 (2011); Slemrod & Kopczuk, note 95.

ter their behavior in a manner that reduces their tax liabilities with respect to two separate tax instruments, but that reduces their tax liabilities more with respect to one of the tax instruments than the other, then this might be considered to represent a hybrid between a single-instrument and a multi-instrument response. To account for hybrid techniques of this sort with respect to optimal-choice-of-tax-instruments questions, one needs only consider the extent to which the techniques reduce tax liabilities with respect to one of the tax instruments more than the other. By factoring out the extent to which a technique simultaneously reduces tax liabilities with respect to both tax instruments—the extent to which the technique operates as a multi-instrument response—one can model the remaining portion of the technique as a single-instrument response. Only to the extent that a tax-minimization technique reduces tax liabilities more with respect to one tax instrument than another is that technique relevant for optimal-choice-of-tax-instruments questions.

### 3. *The Implications of Instrument-Shifting Responses*

A response to a tax instrument is instrument-shifting to the extent that the response reduces a taxpayer's tax liability from the tax instrument in question while simultaneously increasing the taxpayers' liability from a separate tax instrument. A tax instrument should generate instrument-shifting responses only when the effective tax rate for the instrument is higher than that of the other tax instrument to which taxpayers can shift their tax liabilities. In essence, instrument-shifting responses involve taxpayers altering their behavior so that their resources become subject to a tax instrument with lower effective rates.

Most conceivable tax instruments are likely to generate both single-instrument and multi-instrument responses with respect to most alternative tax instruments.<sup>116</sup> In contrast, the majority of tax instruments probably do not generate significant instrument-shifting responses. Yet when comparing tax instruments that do generate significant instrument-shifting responses, this may have important policy implications. For instance, instrument-shifting responses are probably a first-order concern when considering capital income taxes or corporate income taxes.<sup>117</sup>

As a general rule, if setting the tax rate for one tax instrument higher than that for another tax instrument would generate significant instrument-shifting responses between the two tax instruments, then this places weight in favor of keeping the effective tax rates of the two

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<sup>116</sup> See notes 130–46 and accompanying text.

<sup>117</sup> See Saez et al., note 17, at 10–13.

instruments close to equal.<sup>118</sup> If instrument-shifting responses are the only relevant social welfare costs generated by a set of tax instruments, then effective tax rates should be set exactly equal across the tax instruments. If a set of possible tax instruments also generates other forms of social welfare costs, and if minimizing these other social welfare costs requires setting the tax rate for one of the tax instruments higher than that for the other, then the goal of minimizing the social welfare costs from instrument-shifting responses must be weighed against the goal of minimizing the other forms of social welfare costs.<sup>119</sup>

The magnitude of social welfare costs from instrument-shifting responses is a function of the gap between the effective tax rates of the two tax instruments.<sup>120</sup> Applying the tax-smoothing principle, then, the distortionary costs from instrument-shifting responses should rise exponentially with the difference between the two effective tax rates. Thus, if minimizing other categories of social welfare costs requires setting one effective tax rate higher than the other, minimizing overall social welfare costs from both instrument-shifting responses and the other costs would require setting the tax rates unequally but closer to equal than they should be set in the absence of instrument-shifting responses.

#### 4. *The Implications of Overhead Costs*

In addition to the three types of distortionary costs, a complete framework for analyzing the optimal choice of tax instruments must also consider administrative and compliance costs.<sup>121</sup> Hereinafter, I use the term “overhead costs” to refer to the aggregate category consisting of the administrative costs the government incurs to enforce the tax system, the compliance costs taxpayers incur as a result of the tax system, and all of the other costs associated with raising tax revenues other than distortionary costs.<sup>122</sup>

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<sup>118</sup> For a formal model and related discussion making this point, see Piketty & Saez, note 73, at 419-21.

<sup>119</sup> See *id.* at 421.

<sup>120</sup> See *id.*

<sup>121</sup> For an excellent analysis of administrative and compliance costs, see Joel Slemrod & Shlomo Yitzhaki, *Tax Avoidance, Evasion, and Administration*, in 3 *Handbook of Public Economics* 1423, 1447-49 (Kenneth J. Arrow & Michael D. Intriligator eds., 2002). For a prior discussion of possible implications of these costs for double-distortion arguments, see Tomer Blumkin & Yoram Margalioth, *On The Limits of Redistributive Taxation: Establishing a Case for Equity-Informed Legal Rules*, 25 *Va. Tax Rev.* 1, 11-14 (2005).

<sup>122</sup> My terminology follows Daniel N. Shaviro, *An Efficiency Analysis of Realization and Recognition Rules Under the Federal Income Tax*, 48 *Tax L. Rev.* 1, 24 (1992), which defines “tax overhead costs” as “the amount of resources (including the value of time or

Unfortunately, the existing literature provides only limited general guidance for how overhead costs might function with respect to the optimal choice of tax instruments or the setting of tax rates. For the most part, the relevance of overhead costs to optimal-choice-of-tax-instruments questions must be analyzed on a case-by-case basis with respect to the specific tax instruments being considered. Nevertheless, the literature does suggest two aspects of overhead costs that may be generally relevant for optimal-choice-of-tax-instruments questions.

First, there is reason to infer that overhead costs often rise with the number of tax instruments used, even holding revenue raised constant.<sup>123</sup> In other words, there often may be a fixed component to overhead costs with respect to each tax instrument used. To the extent that there is a significant fixed component to overhead costs, levying an additional tax instrument potentially can increase overall overhead costs even if the tax rates set for the additional tax instrument are trivially small, such that the additional tax instrument would raise minimal incremental revenues.

This fixed cost component of overhead costs thus may be minimized by levying fewer tax instruments. This prescription, however, potentially conflicts with the prescription for minimizing the costs from single-instrument distortions. Based on the tax-smoothing principle, a government seeking to minimize the social welfare costs from single-instrument distortions should levy every possible tax instrument, at least assuming that each tax instrument would generate non-negligible single-instrument responses as compared to all of the other tax instruments. Yet levying a large number of tax instruments potentially could significantly increase overhead costs due to the fixed cost component being incurred for each separate tax instrument the government levies. Consequently, a government seeking to minimize overall social welfare costs may need to balance the goal of minimizing the distortionary costs from single-instrument responses against the goal of minimizing overhead costs.

The second aspect of overhead costs that may be generally relevant for optimal-choice-of-tax-instruments questions is that overhead costs may often rise with the number of people (or other agents) charged

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labor) consumed in applying the tax system, through taxpayer or government activities such as tax planning, compliance, litigation, administration, and law-making.”

<sup>123</sup> See Slemrod & Yitzhaki, note 121, at 1448 (“There are decreasing average [overhead] costs because the cost of inspecting a tax base does not depend on the tax rate. . . .”); see also Jonathan Shaw, Joel Slemrod & John Whiting, Administration and Compliance, in *Dimensions of Tax Design*, note 16, at 1120 (“[A]verage [overhead] costs per pound of revenue collected are likely to fall as the tax rate increases because the cost of complying or inspecting a tax base does not depend on the tax rate. . . .”).

with tax remittance obligations.<sup>124</sup> Based on this notion Joel Slemrod has argued that overhead costs often may be reduced by charging employers or other businesses with tax remittance duties, as opposed to imposing remittance obligations on the much larger number of individual taxpayers.<sup>125</sup> Relatedly, overhead costs may be lower for tax instruments that collect revenues from a small number of taxpayers with greater ability to pay, as opposed to collecting revenues from a larger number of taxpayers with lesser ability to pay. At the extreme, if a tax instrument is only levied on a small number of extremely well-off taxpayers, then the overhead costs may be much lower than for tax instruments levied more broadly.

### C. *Outlining the Theoretical Framework*

Based on the tax-smoothing principle, perhaps the most agreed-upon advice that tax academics offer to policymakers is that tax systems should be designed with broad bases and low rates.<sup>126</sup> Raising revenues or conducting distribution through multiple tax instruments is akin to broadening the base of specific tax systems. In both contexts, the larger the number of transactions subject to taxation, the lower that tax rates need to be set in order to raise any specified amount of revenue.

Of course, the advocates of double-distortion arguments are well aware of this implication of the tax-smoothing principle. Indeed, a major reason why the Atkinson-Stiglitz model is considered to be one of the most important advances of the last century of public finance economics is because the Atkinson-Stiglitz model has been used to argue that the tax-smoothing principle does not apply to questions of whether to supplement a labor income or consumption tax with additional tax instruments.<sup>127</sup> Under the assumptions of double-distortion arguments, a labor income tax does not induce any distortionary responses that are not also induced by alternative tax instruments such as excise taxes—in this Article’s terminology, a labor income tax does not induce any single-instrument responses. Therefore, the advocates of double-distortion arguments contend that the logic behind base-

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<sup>124</sup> See Slemrod & Gillitzer, note 24, at 70-78; Slemrod & Yitzhaki, note 121, at 1448-49.

<sup>125</sup> Joel Slemrod, Does it Matter Who Writes the Check to the Government? The Economics of Tax Remittance, 61 Nat’l Tax J. 251, 272-73 (2008); see also Leandra Lederman, Reducing Information Gaps to Reduce the Tax Gap: When Is Information Reporting Warranted?, 78 Fordham L. Rev. 1733, 1740 (2010).

<sup>126</sup> See note 90 and accompanying text. But see James R. Repetti, The Uneasy Case for a Comprehensive Tax Base, in *Tax Compliance Costs for Companies in an Enlarged European Community* 499, 501, 511 (Michael Lang, Christine Obermair, Josef Schuch, Claus Staringer & Patrick Weninger eds., 2008).

<sup>127</sup> See Kaplow, note 16, at 147.

broadening prescriptions does not apply to optimal-choice-of-tax-instruments questions.<sup>128</sup>

Once tax gaming responses are incorporated, however, it becomes clear that the base-broadening prescription does in fact apply to optimal-choice-of-tax-instruments questions, at least with respect to single-instrument distortions and instrument-shifting distortions. Again, in the absence of overhead costs, and assuming that all available tax instruments generate non-negligible single-instrument or instrument-shifting distortions with respect to all other available tax instruments, a government should levy every available tax instrument with above zero rates. The primary reason why governments probably should not levy every available tax instrument is that doing so could significantly increase overhead costs.<sup>129</sup>

The remainder of this Section (first) further illustrates the distinction between single-instrument and multi-instrument responses through several examples so as to discuss the prevalence of single-instrument responses, then (second) proceeds to explain why the case for levying multiple tax instruments may be much stronger than what is implied by the rule-of-thumb version of the tax-smoothing principle, then (third and finally) concludes by revisiting the question of whether a government should levy luxury excise taxes to supplement a labor income tax. The theoretical framework developed through evaluating the luxury-excise-tax problem can then be applied to a variety of other policy questions, as this Article begins to demonstrate in Section III.B.

### *1. On the Prevalence of Single-Instrument Responses*

In the Introduction to this Article, I suggested that many of the most important ways in which high-income taxpayers currently respond to income taxes probably largely constitute single-instrument distortions when comparing an income tax to excise taxes.<sup>130</sup> It is ultimately challenging to analyze the implications of tax gaming re-

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<sup>128</sup> See *id.*

<sup>129</sup> Note that this logic also applies in the context of broadening the base of specific tax systems. Thus, despite the importance attached to the base-broadening prescription, there is general agreement that some forms of psychic income, imputed income, incidental income, and *de minimis* income should be excluded from the base of the income tax in order to minimize overhead costs. In other words, the goal of administrability should sometimes trump the goals of efficiency and equity. See Alice G. Abreu & Richard K. Greenstein, *Defining Income*, 11 Fla. Tax Rev. 295, 339-45 (2011) (discussing the exclusion of sources of value from the income tax base).

Also note that, to the extent that the assumptions of this Section do not hold, there may be other reasons (beyond overhead costs) why governments should perhaps not levy every available tax instrument, as discussed in Section III.A.

<sup>130</sup> See notes 41-42 and accompanying text.

sponses because the nature of these responses can change quite dramatically over time and across different tax environments. As Douglas Shackelford explains, “[t]he half-life of these plans is short. They become obsolete as the law changes and as tax innovators, unaided by patents and copyrights, are forced to recover their investments quickly and develop superior avoidance techniques.”<sup>131</sup> Nevertheless, there is at least anecdotal evidence in support of the inference that at least a substantial portion of the most important tax gaming responses through which the highest-income U.S. taxpayers currently respond to the income tax consists of single-instrument distortions when comparing the income tax to excise taxes.

To begin explaining why, it is worth repeating why labor-to-leisure substitutions may operate as multi-instrument responses when comparing income taxes to excise taxes. When taxpayers opt to work less, they earn less income and thus can afford less market consumption. Imagine a taxpayer deciding whether to work longer hours so as to earn the money needed to purchase a yacht or to work fewer hours so as to instead have more leisure time for enjoying public beaches. Because enjoying leisure is subject to neither an income tax nor an excise tax, the extent to which taxation makes labor-funded purchased consumption less attractive as opposed to leisure is a function of the combined rates of both the income tax and the excise tax.

In contrast, as discussed previously, the most straightforward examples of single-instrument responses when comparing income taxes to excise taxes involve techniques for creating artificial or inflated income tax losses or deductions. For instance, prior to the Tax Reform Act of 1986, a very common income tax reduction technique was for taxpayers to purchase ownership rights in depreciable assets, and then to take advantage of the generous depreciation rules while typically using techniques for greatly inflating the assessed value of those assets in order to claim deductions many times larger than expenses incurred.<sup>132</sup> Similarly, common techniques today involve taxpayers inflating the value of assets donated to charities for purposes of claiming charitable contribution deductions, or taxpayers claiming business expense deductions for what are really personal consumption expenditures.<sup>133</sup> Tax gaming responses of these sorts should largely constitute

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<sup>131</sup> Shackelford, note 21, at 121-22.

<sup>132</sup> See Livingston & Gamage, note 110, at 500-03. Variations of this technique are still used today, but this technique is now far less common because its tax reduction potential has been greatly curtailed by anti-abuse rules.

<sup>133</sup> See *id.* at 309-19, 443-45. See also Daniel S. Goldberg, *The Death of the Income Tax: A Progressive Consumption Tax and the Path to Fiscal Reform* 25-26 (2013) (discussing tax gaming responses related to claiming business expense deductions for personal expenditures).

single-instrument distortions when comparing an income tax to excise taxes because these transactions operate by reducing reported taxable income in excess of any reduction to actual income or consumption. In other words, the income that taxpayers conceal from the tax authority through these techniques can still be used to finance purchases subject to excise taxation. Only if taxpayers go completely underground—and use the income they conceal from the tax authority exclusively for making purchases that are concealed from the tax authority for excise tax purposes—might these techniques constitute multi-instrument responses.<sup>134</sup>

Certainly, the taxpayers engaging in these gaming responses for reducing their income tax liabilities might also engage in other single instrument responses for reducing their excise tax liabilities. But the taxpayers will need to incur additional costs in order to do so.<sup>135</sup> Unlike with multi-instrument responses, income tax reduction techniques that operate through taxpayers reducing their reported taxable incomes in excess of any reductions to actual incomes do not simultaneously allow taxpayers to reduce their excise tax liabilities in addition to their income tax liabilities, unless the taxpayers incur additional costs. Consequently, the incentives that taxpayers face as to whether to engage in single-instrument responses for reducing their income tax liabilities depend on the rates of the income tax, and do not directly depend on the rates of excise taxes.

This analysis also applies more generally to many tax gaming techniques for reducing income tax liabilities other than those involving the creation of artificial or inflated deductions or losses. For instance, perhaps the most important tax-reduction strategies employed by high-income taxpayers today begin with techniques for receiving income in forms that qualify as capital assets.<sup>136</sup> As economists typically use the terms, “labor income” refers to any income that taxpayers earn as a result of their ability or effort, and “capital income” refers only to the time-value returns from saving rather than spending.<sup>137</sup> As

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<sup>134</sup> And, even then, these techniques should only operate as multi-instrument distortions if the only way that taxpayers can conceal their labor income from the tax authority is by also simultaneously concealing their purchases from the tax authority, such that the taxpayers do not incur any additional costs in order to reduce their excise tax liabilities beyond the costs incurred in order to reduce their labor income tax liabilities.

<sup>135</sup> As discussed further in Subsections II.C.2 and III.A.2., the costs taxpayers must incur to engage in single-instrument responses with respect to each tax instrument should grow exponentially.

<sup>136</sup> See Shackelford, note 21, at 121-27 (explaining how taxpayers can avoid being taxed on capital assets by taking advantage of the realization rules and also explaining a number of common techniques through which sophisticated taxpayers transform their labor income into capital assets).

<sup>137</sup> See, e.g., Alan Auerbach, *The Choice Between Income and Consumption Taxes: A Primer*, in *Institutional Foundations of Public Finance* 13, 16 (Alan J. Auerbach & Daniel

such, the economists' definitions would consider as "labor income" much of the earnings that entrepreneurs gain from investing in their businesses, the earnings that investors gain from skillfully picking stocks and other investments, the earnings that executives gain from being compensated through stock options or other forms of equity, and the earnings that financiers gain from investing on behalf of clients. Yet, under the rules of the U.S. income tax, taxpayers have developed a number of techniques for ensuring that these forms of earnings are often at least partially governed by the rules for capital assets rather than the rules for ordinary labor income.<sup>138</sup> Even to the extent that these earnings are eventually taxed at capital gains rates, then, these techniques enable taxpayers to reduce their income tax liabilities to the extent of the difference between the ordinary income and capital gains tax rates. As long as at least some of these earnings are at some point used to fund consumption subject to excise taxation, these techniques should thus at least partially constitute single-instrument responses when comparing an income tax to excise taxes.<sup>139</sup>

Moreover, sophisticated taxpayers often employ further tax-minimization techniques so that earnings of these sorts become at least partially exempt from even the capital gains tax rates.<sup>140</sup> These techniques generally involve taking advantage of the realization rules, and then using strategies such as borrowing against the appreciated capital assets in order to fund current consumption. Underscoring the real world importance of these forms of tax gaming, Edward McCaffery calls these techniques "Tax Planning 101,"<sup>141</sup> and Douglas Shackelford concludes that through these techniques "the capitalist can transform the income tax into a somewhat voluntary assessment."<sup>142</sup> Again, as long as at least some of the earnings that taxpayers are able to exempt from income taxation are used to fund consumption subject to excise taxation, these techniques should largely constitute single-instrument responses when comparing an income tax to excise taxes.

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N. Shaviro eds., 2008); David A. Weisbach, *Implementing Income and Consumption Taxes*, in *Institutional Foundations*, *supra*, at 59, 61.

<sup>138</sup> See e.g., Shackelford, note 21, at 125-27; David Weisbach, *The Taxation of Carried Interests in Private Equity*, 94 *Va. L. Rev.* 715, 743 (2008).

<sup>139</sup> These transactions would constitute instrument-shifting distortions when comparing the ordinary labor income tax rates and rules to the capital gains tax rates and rules, but the transactions should constitute single-instrument distortions when comparing the income tax to excise taxes.

<sup>140</sup> See, e.g., Edward J. McCaffery, *The Oxford Introductions to U.S. Law: Income Tax Law: Exploring the Capital-Labor Divide* 12-17 (2012); Shackelford, note 21, at 126.

<sup>141</sup> McCaffery, note 140, at 12.

<sup>142</sup> Shackelford, note 22, at 127; see also Edward J. McCaffery, *A New Understanding of Tax*, 103 *Mich. L. Rev.* 807, 886 (2005) ("[A]ny subsequent taxation on accumulated financial capital or its yield is easily avoided. Taxes on the yield to capital have become voluntary in important ways.").

Of course, labor-to-leisure substitutions are not the only potential multi-instrument responses capable of simultaneously reducing both income tax and excise tax liabilities. Consider a taxpayer deciding whether to move out of a higher-tax jurisdiction and into a lower-tax jurisdiction. If the taxpayer would both work in the new jurisdiction and make all purchases in the new jurisdiction, then moving to the new jurisdiction should simultaneously allow the taxpayer to avoid both the original jurisdiction's income and excises taxes, making this move a multi-instrument response for these forms of taxation. Conversely, if the taxpayer would continue to make some purchases in the original jurisdiction after moving, then moving might partially operate as a single-instrument response capable of completely skirting the original jurisdiction's income tax but not fully skirting the original jurisdiction's excise taxes.

Overall, then, these examples should suffice to demonstrate that—when comparing income taxes to excise taxes—at least a significant portion of the ways in which taxpayers respond to the income tax probably constitute single-instrument responses. However, it is probably also the case that at least a significant portion of the ways in which taxpayers respond to the income tax probably constitute multi-instrument responses.

Looking beyond specific examples, the empirical economics literature finds that measured labor-to-leisure responses to the U.S. income tax are fairly small as compared to the overall measurements for the various ways in which taxpayers act to reduce their U.S. income tax liabilities.<sup>143</sup> As three prominent economists explain based on reviewing the empirical literature, “while there is compelling evidence of strong behavioral responses to taxation at the upper end of the distribution”, these responses consist entirely of “timing and avoidance” games.<sup>144</sup>

What portion of these timing and avoidance games constitutes single-instrument responses when comparing the income tax to excise taxes? Consider how the renowned economists Slemrod and Yitzhaki assess the empirical literature:

[t]he research has clarified that when the tax structure changes, people may alter their consumption basket, but they also may call and give new instructions to their accountant, change their reports to the IRS, change the timing of

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<sup>143</sup> Saez et al., note 17, at 4 & 17-43 (concluding that “[o]verall. . .the compensated elasticity of labor appears to be fairly small” and then reviewing the empirical literature on taxable-income elasticities to find a range of possible results nearly all of which are much larger than measured labor-supply elasticities).

<sup>144</sup> Id. at 42.

transactions, and effect a set of other actions that do not directly involve a change in their consumption basket. In many cases, particularly for high-income taxpayers, this latter set of responses has larger revenue and welfare implications than the real substitution responses, such as labor supply, that tax analysis has traditionally focused on.<sup>145</sup>

To the extent that taxpayers act to reduce their income tax liabilities without altering their consumption baskets, these behaviors should generally constitute single-instrument responses when comparing the income tax to excise taxes. After all, to the extent that taxpayers do not change their consumption baskets when reducing their income tax liabilities through tax gaming responses, then these tax gaming responses should probably not directly affect the taxpayers' excise tax liabilities.

In summary, there are a number of examples of important tax gaming responses that should primarily constitute single-instrument responses when comparing an income tax to excise taxes, and the empirical economics literature can also be read as supporting the inference that single-instrument responses to the income tax have "larger revenue and welfare implications than the real substitution responses, such as labor supply, that tax analysis has traditionally focused on."<sup>146</sup>

Of course, this is largely anecdotal evidence. Regardless, this evidence does not allow us to precisely estimate what percentage of the responsiveness to the U.S. income tax constitutes single-instrument responses as opposed to multi-instrument responses. Nevertheless, there is at the very least reason to infer that at least a substantial portion of the responsiveness to the existing U.S. income tax probably constitutes single-instrument responses as compared to excise taxes. There is certainly no reason to infer that the responsiveness to the U.S. income tax primarily consists of multi-instrument distortions.

For all these reasons, if we need to make a best educated guess as to what portion of the responsiveness to the existing U.S. income might constitute single-instrument distortions when comparing the income tax to excise taxes, I would argue that 50% is a more reasonable approximation than either 0% or 100%, and especially so with respect to the highest-income U.S. taxpayers. I offer this estimate only based on the notion that we can probably reject the alternative estimates of either close to zero percent or close to one hundred percent, and be-

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<sup>145</sup> Slemrod & Yitzhaki, note 121, at 63.

<sup>146</sup> *Id.*

cause we lack persuasive evidence as to whether our best guess estimate should be higher or lower than 50%.

## 2. *On the Power of the Tax-Smoothing Principle*

In light of the tax-smoothing principle, that a tax instrument is a superior mechanism for raising any fixed sum of revenue does not imply that the instrument is superior for raising marginal revenues. Instead, one must analyze the MCPF for each available tax instrument.<sup>147</sup> I began to illustrate the importance of the tax-smoothing principle through an example in the introduction and through the discussion of the Ramsey model. Yet those discussions did not fully explain the power of the tax-smoothing principle with respect to optimal-choice-of-tax-instruments analysis. There are at least three reasons why the case for levying additional tax instruments to supplement a labor income tax may be much stronger than what is suggested by the rule-of-thumb version of the tax-smoothing principle.<sup>148</sup>

To understand the first reason, consider the numerator of the MCPF ratio, which measures the distortionary costs generated as a function of the relevant effective tax rates. The rule-of-thumb version of the tax-smoothing principle implies that marginal distortionary costs generally should rise approximately with the square of the relevant (tax-exclusive) tax rates.<sup>149</sup> Yet labor income tax rates are usually expressed in *tax-inclusive* terms,<sup>150</sup> and the same is also true for many forms of progressive consumption taxes.<sup>151</sup> Thus, as James Repetti has explained:

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<sup>147</sup> For simplicity, in the following paragraphs I describe the denominator of the MCPF ratio in terms of revenue raised. The analysis in these paragraphs also applies for tax instruments designed to promote distributional equity directly (rather than for raising revenues), but the denominator should then be expressed in terms of the amount of distributional equity promoted (rather than the amount of revenue raised).

<sup>148</sup> For discussion of the rule-of-thumb version of the tax-smoothing principle, see Subsection II.A.1.

<sup>149</sup> See *id.*

<sup>150</sup> "A tax-exclusive tax rate refers to the amount of tax paid as a proportion of the pretax value of whatever is taxed; sales tax rates are typically expressed in tax-exclusive terms. A tax-inclusive rate, conversely, refers to the amount of tax paid as a proportion of the after-tax value; income tax rates are often expressed in tax-inclusive terms. Thus the difference between the two definitions is whether or not the tax paid is included in the denominator when calculating the tax rate." William Gale & Benjamin Harris, National Retail Sales Tax: What Is the Difference Between a "Tax-Exclusive" and "Tax-Inclusive" Sales Tax Rate?, Urban-Brookings Tax Pol'y Ctr., <http://www.taxpolicycenter.org/briefing-book/improve/retail/exclusive-inclusive.cfm> (last updated Dec. 14, 2007).

<sup>151</sup> For discussion of progressive consumption taxes, see Gamage, note 13, at 50–51.

At first glance, one might think that doubling the income tax rate from 25% to 50% will quadruple the excess burden. But in fact it will increase the excess burden nine fold. To see this, we first convert the 25% tax-inclusive rate to a 33% tax-exclusive rate and the 50% tax-inclusive rate to a 100% tax exclusive rate. Note now that the tax exclusive rate has tripled.<sup>152</sup>

The higher that tax-inclusive rates are set, then, the faster the exponential growth of distortionary costs with respect to raising the tax-inclusive tax rates. Increasing labor income tax rates from (say) 60% to 90% thus would result in a much larger exponential increase in distortionary costs than would increasing labor income tax rates from 25% to 50%.<sup>153</sup> Translated into tax-exclusive rates, a 60% tax-inclusive rate equals a 150% tax-exclusive rate and a 90% tax-inclusive rate equals a 900% tax-exclusive rate. Therefore, increasing labor income tax rates from 60% to 90% is equivalent to increasing tax-exclusive rates sixfold. Following the rule-of-thumb version of the tax-smoothing principle that distortionary costs rise with square of the relevant tax-exclusive rates, increasing labor income tax rates from 60% to 90% should approximately generate thirty-six times the magnitude of distortionary costs.

To understand the second reason why the case for levying additional tax instruments may be much stronger than what is suggested by the rule-of-thumb version of the tax-smoothing principle, consider the denominator of the MCPF ratio. This denominator measures the revenue raised as a function of the relevant tax rates.

Importantly, increasing a tax rate does not increase revenue raised in a linear fashion. Instead, the higher the tax rate, the more distortionary behaviors the tax rate induces. Because distortionary behaviors reduce revenue raised, doubling a tax rate thus generally will not double revenues. Indeed, most tax instruments are thought to have a revenue-maximizing point, beyond which increasing the tax rate reduces revenues rather than increasing revenues.<sup>154</sup> This revenue-maximizing point sometimes is referred to as the peak of the Laffer Curve.<sup>155</sup>

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<sup>152</sup> Repetti, note 126, at 509 & n.56 (“The formula for converting the tax inclusive tax rate to the tax exclusive rate is: Tax-exclusive rate = tax inclusive rate/(1 – tax inclusive rate.”).

<sup>153</sup> The numbers 60% and 90% in this example were chosen because they equate to round-number tax-exclusive rates.

<sup>154</sup> See Mathias Trabandt & Harald Uhlig, *The Laffer Curve Revisited*, 58 *J. Monetary Econ.* 305, 306 (2011).

<sup>155</sup> See *id.*

When tax rates are set well below their revenue-maximizing points, increasing a tax rate may generate additional revenue in a close to linear fashion. Yet the closer a tax rate is set to its revenue-maximizing point, the less additional revenue will be generated by increasing the tax rate, thus increasing the ratio of marginal distortionary costs per revenue raised. Indeed, as tax rates are increased close to their revenue-maximizing points, the ratio of marginal distortionary costs per revenue raised approaches infinity.<sup>156</sup>

To understand the third reason why the case for levying additional tax instruments to supplement a labor income tax may be much stronger than what is suggested by the rule-of-thumb version of the tax-smoothing principle, consider again the double-distortion argument for why excise taxes (and other taxes levied on how money is spent) induce labor-to-leisure distortions. By reducing the purchasing power of money earned, excise taxes make leisure more attractive as compared to working to earn money.<sup>157</sup>

For the same reason, excise taxes may diminish the purchasing power of the tax benefit derived from single-instrument responses for reducing labor income tax liabilities.<sup>158</sup> When a taxpayer acts to reduce her reported taxable labor income by a dollar, the taxpayer receives benefit equal to the effective marginal tax rate of the labor income tax. But this tax benefit is only valuable because paying less in labor income taxes leaves the taxpayer with more money to spend on purchases. Thus, excise taxes diminish the value of the tax benefit derived from single-instrument responses for reducing labor-income-tax liabilities.

Even holding the labor income tax rates constant, then, might levying excise taxes reduce the overall magnitude of single-instrument responses for the labor income tax? The answer is “yes,” but only to the extent to that the costs taxpayers would need to incur to engage in single-instrument responses for reducing their labor income tax liabilities would be nonmonetary in nature.<sup>159</sup> In a sense, to the extent that the costs of engaging in single-instrument responses for reducing labor income tax liabilities are nonmonetary in nature, engaging in these responses is akin to working, in that doing so transforms non-monetary costs into monetary benefit. Thus, just as excise taxes decrease the returns to paid labor by reducing the purchasing power of money,

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<sup>156</sup> The reason for this is because the denominator of marginal incremental revenue raised from increasing the tax rate approaches zero.

<sup>157</sup> See notes 28–34 and accompanying text.

<sup>158</sup> I thank Andrew Hayashi for helping me develop this point.

<sup>159</sup> Non-monetary costs might include the need to sacrifice leisure time in order to engage in these tax gaming responses. For further discussion, see Subsection III.A.2.

excise taxes should also decrease the incentives to incur nonmonetary costs in order to generate (monetary) labor income tax savings.<sup>160</sup>

Overall, then, one might think of the rule-of-thumb version of the tax-smoothing principle—that distortionary costs rise approximately with the square of the relevant tax rates—as a rough lower bound on the extent to which raising additional revenues through a tax instrument should exponentially increase the distortionary costs generated by that tax instrument.<sup>161</sup> The more that a tax instrument is used to generate revenue, the greater the degree that raising additional revenue through that tax instrument should exponentially increase marginal distortionary costs. And, for tax instruments like labor income taxes for which we typically evaluate tax rates expressed in tax-inclusive terms, increasing these tax rates should generally increase distortionary costs much faster than with the square of the tax-inclusive rates. Moreover, to the extent that the costs of engaging in single-instrument responses for a labor income tax (or for similar tax instruments) would be nonmonetary in nature, levying excise taxes (or similar tax instruments) should have a negative impact on the incentives to engage in these responses, even holding the labor income tax rates constant. For these reasons, the case for levying additional tax instruments to supplement a labor income tax may be much stronger than what is suggested by the rule-of-thumb version of the tax-smoothing principle.

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<sup>160</sup> For comparison, to the extent that the costs of engaging in single-instrument responses for reducing labor income tax liabilities are monetary in nature, excise tax rates should not induce any substitution effects with respect to these responses. The reason is that the impact of excise taxes in reducing the purchasing power of money would discount both the benefit from these responses and the costs, as both the benefit and the costs would then be monetary in nature. Instead, excise tax rates should only affect these responses through income effects (which are directionally ambiguous). Following standard optimal-tax methodology, this Article's framework factors out income effects, as the implications of income effects depend on how the government spends the tax revenues raised. See Gamage & Shanske, note 6, at 62-63.

<sup>161</sup> Relatedly, because the marginal distortionary costs of raising revenue through a tax instrument generally should rise exponentially with the magnitude of revenue raised through the tax instrument, a government's choices with respect to one tax instrument can affect the MCPF of other tax instruments. This is perhaps easiest to see with respect to multi-instrument responses. To the extent that two tax instruments induce multi-instrument responses, the more revenue a government raises through one of these tax instruments, the greater the marginal distortionary costs from the multi-instrument responses of raising revenue through the other tax instrument. Therefore, the marginal costs of raising an additional dollar of revenue through any particular tax instrument is a function of both the amount of revenue raised through that tax instrument and of the government's choices with respect to other tax instruments.

### 3. *The Theoretical Framework as Applied to Luxury Excise Taxes*

I have now developed the basic building blocks of this Article's theoretical framework for analyzing optimal-choice-of-tax-instruments questions. To the extent that the assumptions of this Section hold,<sup>162</sup> the primary empirical parameters for which estimates should be needed to analyze optimal-choice-of-tax-instruments questions are: (1) the marginal single-instrument distortions that would be generated by adjusting the tax rates of each tax instrument to be evaluated; (2) the marginal instrument-shifting distortions that would be generated by adjusting the gaps between the effective tax rates of each set of tax instruments to be evaluated; (3) the distributional implications of adjusting the tax rates of each tax instrument to be evaluated; and (4) the marginal overhead costs that would be generated by levying each tax instrument and by adjusting the rates of each tax instrument to be evaluated.<sup>163</sup>

These four sets of empirical parameters might potentially function as sufficient statistics for answering optimal-choice-of-tax-instruments questions.<sup>164</sup> In contrast to approaches that rely on modeling only specific forms of tax-reduction behaviors (like double-distortion arguments), a properly developed sufficient-statistics approach potentially alleviates the need for analyzing specific techniques through which

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<sup>162</sup> Note that in addition to the explicitly stated assumptions, there are numerous additional assumptions implicit in the analysis. Both with formal mathematical modeling and with less-formal modeling expressed linguistically, it is impossible to explicitly state every assumption on which the model is based, and so there must always be additional assumptions implicit in the analysis. Nevertheless, I follow Chetty's terminology in describing this Article's framework as being based on "sufficient-statistics" methodology. Chetty, note 22, at 452-54.

<sup>163</sup> In addition to these four sets of parameters, just before the final revisions on this Article were due, both Alvin Warren and Thomas Brennan suggested to me that there might also be another category of distortionary responses whereby the ways in which different tax instruments might be integrated could open up holes that could be exploited through tax gaming that would not be available under only any one of these tax instruments separately. It is not clear to me whether this possible additional category of distortionary responses is actually of any real practical importance. But I note here the possibility that this form of distortionary response might be important and could potentially weaken the case for levying multiple tax instruments.

<sup>164</sup> With estimates for all of these parameters, and based on the pre-specified revenue needs and social welfare weights for trading off between distribution and efficiency, one could potentially determine the optimal use of each of the tax instruments to be evaluated (to the extent that the assumptions of this Section hold, including both the explicitly stated assumptions and the assumptions implicit in the analysis; see note 162). **[DG: check]** Of course, we often will not have complete empirical estimates for all four of these key sets of parameters. Yet as the remainder of this Article and its forthcoming companion article demonstrate, one can apply this Article's framework to generate rough partial answers to many optimal-choice-of-tax-instruments questions, even in the absence of comprehensive empirical information.

taxpayers might reduce their tax liabilities.<sup>165</sup> Instead, sufficient-statistics approaches can generate policy prescriptions based on elasticity estimates for aggregate categories of tax-reduction behaviors.<sup>166</sup> Accordingly, the four sets of key empirical parameters explained in this Section are designed to express the various ways in which adjusting the mixture of tax instruments levied might alter either the distortionary costs or the overhead costs generated by the overall mixture of tax instruments.

To illustrate, consider once again a government deciding whether to levy a new luxury excise tax to supplement its existing income tax. For simplicity, continue to treat the base-calculation rules of both tax instruments as fixed, and ignore the possibility of the government levying other tax instruments, such that the government's only options for raising revenue are either to adjust the rates of the income tax or to levy and adjust the rates of the luxury excise tax.

If the government opts to levy the new luxury excise tax, the revenue so raised can be used to reduce the rates of the existing income tax, thereby holding overall tax revenue constant. The question then becomes whether the government can promote more distribution at less efficiency cost by relying exclusively on the income tax or by supplementing the income tax with the new luxury excise tax.<sup>167</sup> Based on the analysis of this Part, a preliminary answer can be reached by asking four questions:

First, to what extent (if any) would the responsiveness to the new luxury excise tax be meaningfully different from the responsiveness to the existing labor income tax? In other words, what are the marginal single-instrument distortions from either adjusting the tax rates of the existing income tax or levying and adjusting the tax rates of the new luxury excise tax?

Second, to what extent (if any) would the responsiveness to the existing labor income tax involve techniques for shifting tax liabilities to the base of the new luxury excise tax, and vice-versa? In other words, what are the marginal instrument-shifting distortions for adjusting the gap between the effective tax rates of the existing labor income tax and the new luxury excise tax?

Third, what would be the distributional impact of levying the new luxury excise tax and of adjusting the rates of both tax instruments?

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<sup>165</sup> See Chetty, note 22, at 452-56.

<sup>166</sup> Note, however, that it is important to test and refine sufficient-statistics approaches through structural evaluation of some of the specific behaviors that constitute the aggregate categories that are used as sufficient statistics. See *id.* at 466-67.

<sup>167</sup> Alternatively, the government might hold distribution constant, thus making the question which mix of policy instruments is capable of raising more revenue at lower efficiency costs.

In other words, what is the incidence of the new luxury excise tax as compared to that of the existing labor-income tax and what are the distributional implications of that incidence?

Fourth, to what extent (if any) would levying the new luxury excise tax and adjusting the rates of both tax instruments affect overall overhead costs?

By answering these four questions, one can potentially evaluate whether levying the new luxury excise tax could reduce distortionary costs by enough to offset any (possible) increase in overhead costs. In essence, this approach starts by estimating the potential for levying the new luxury excise tax to reduce distortionary costs through questions one and two, then adjusts for distributional impact through question three, and finally compares the social welfare benefit from reducing distortionary costs to any social welfare harm from increasing overhead costs that might result from levying the new luxury excise tax—as estimated through question four.

In light of the tax-smoothing principle, to the extent that the income tax induces any single-instrument or instrument-shifting distortions as compared to the luxury excise tax, levying both tax instruments should reduce overall distortionary costs. Nevertheless, if levying both tax instruments would significantly increase overall overhead costs, then one cannot determine whether it is optimal to levy both tax instruments without some estimates for the key empirical parameters.<sup>168</sup> Thus, as this discussion should make clear, one cannot usually answer optimal-choice-of-tax-instruments questions based on theory alone. Instead, we typically need at least rough estimates for the key empirical parameters. If reliable estimates for these key parameters cannot be obtained from empirical studies, then one must use as inputs one's best inductive inferences about the plausible bounds of these empirical parameters.

It is worth emphasizing that this Part's demonstration that optimal-choice-of-tax-instruments questions cannot usually be answered based on theory alone is an important contribution to the academic literature in its own right. Double-distortion scholarship often suggests that prescriptions can be generated for optimal-choice-of-tax-instruments questions based on deductive theoretical analysis.<sup>169</sup> Because double-

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<sup>168</sup> For instance, imagine if the luxury excise tax was extremely easy to game. Overall distortionary costs might then be minimized by levying the luxury excise tax at a very low rate, such that there would be only minimal potential for reducing distortionary costs by levying the luxury excise tax instead of relying exclusively on the income tax. If levying the luxury excise tax would substantially increase overhead costs, it thus might be optimal to levy only the income tax.

<sup>169</sup> Of course, sophisticated scholars advocating double-distortion arguments recognize the importance of administrative and implementation concerns and that double-distortion

distortion models assume that labor income taxes do not generate any single-instrument distortions and because these models generally do not incorporate overhead costs, double-distortion arguments generally conclude that all distribution should be conducted through a labor income or a progressive consumption tax, with only limited exceptions.<sup>170</sup> In contrast, this Part demonstrates that it may be optimal to conduct distribution through additional tax instruments to supplement a labor income or a progressive consumption tax, and that optimal-choice-of-tax-instruments questions cannot be answered without either estimates for the key empirical parameters or at least inductive inferences about the plausible settings of these parameters.

Moreover, even in the absence of comprehensive empirical information, this Article's framework can generate rough policy prescriptions for at least some optimal-choice-of-tax-instruments questions. For instance, as discussed further below, when analyzing whether legal rules should be designed to promote distribution, there often will not be any particular reason to expect that doing so would increase overhead costs. Thus, this Article's framework suggests that it is probably optimal to use at least some of these legal rules to promote distributional equity.

Fully demonstrating the usefulness of this Article's framework requires first more fully evaluating the relevant empirical literatures—a task taken up by the forthcoming companion article.<sup>171</sup> Nevertheless, considering the dominance of the double-distortion approach within the existing law and economics literature, it is important to thoroughly develop the theoretical underpinnings of this Article's framework before applying the framework to real-world policy problems. To that end, the next Part analyzes whether this Article's framework is robust to relaxing its assumptions and then proceeds to the application of whether legal rules should be designed to promote distribution.

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models do not capture everything relevant for answering optimal-choice-of-tax-instruments question. Nevertheless, these scholars often suggest that the prescriptions generated by double-distortion models should inform real world policy in a manner contrary to the implications of this Article's framework.

See, e.g., Joseph Bankman & David Weisbach, *The Superiority of an Ideal Consumption Tax over an Ideal Income Tax*, 58 *Stan. L. Rev.* 1413, 1415 (2006) (concluding based on a double-distortion model that an "ideal" consumption tax is superior to an "ideal" income tax, and that an imperfect consumption tax is thus likely to be superior to an imperfect income tax).

<sup>170</sup> See, e.g., *id.* at 1414-17.

<sup>171</sup> Gamage, note 13, at 19-28.

### III. Expanding and Applying the Theoretical Framework

Many sophisticated advocates of double-distortion arguments have noted the importance of evaluating what they sometimes label as “administrative” or “implementation” issues when analyzing optimal-choice-of-tax instruments questions.<sup>172</sup> Yet most of the prior literature on these questions, nonetheless, has either operated at such a high level of abstraction that these “administrative” issues are completely left out of the analysis, or at such a level of detailed application that it becomes difficult to reach any generalizable conclusions.<sup>173</sup>

The previous Part developed a theoretical framework for analyzing optimal-choice-of-tax-instruments questions, with the goal of connecting generalizable theory to key concerns of administrative practicality. In doing so, the previous Part emphasized the importance of analyzing tax gaming responses through a framework informed by the tax-smoothing principle.

It is common in the prior theoretical literature to consider optimal-choice-of-tax-instruments questions through the lens of what information the government can elicit about taxpayers’ ability through the use of different possible tax instruments. Conceived of in this fashion, double-distortion arguments are based on the notion that levying a labor income tax provides a government with information on labor income. Then, once a government has information on labor income, double-distortion arguments imply that there is only limited potential for supplementary tax instruments to provide information about taxpayers’ ability beyond what was already contained in the information on labor income.

Yet real world labor income taxes only provide information on *measured labor income*. Because taxpayers engage in a variety of tax gaming responses, measured labor income is likely to depart substantially from actual labor income. Because of this, the previous Part demonstrated that supplementary tax instruments can elicit substantial information about taxpayers’ ability beyond what the government can obtain from real world labor income taxes. In other words, supplementary tax instruments can elicit information about the portions of actual labor income that are not encompassed in the measured labor income elicited by real world labor income taxes. For instance, to the extent that tax gaming responses allow a taxpayer to circumvent labor

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<sup>172</sup> E.g., Kaplow, note 16, at 90-94, 411 (“The centrality of administrative and enforcement concerns is difficult to overstate. . . .”); Bankman & Weisbach, note 169, at 1414-15; David Weisbach, *The (Non)Taxation of Risk*, 58 *Tax L. Rev.* 1, 25 (2004).

<sup>173</sup> See David Gamage, *A Way Forward for Tax Law and Economics? A Response to Osofsky’s “Frictions, Screening, and Tax Law Design,”* 61 *Buffalo L. Rev.* 189, 189 (2014); see also nikov, note 54, at 529-66.

income taxes while still earning actual labor income that is used to finance consumption subject to excise taxes, the excise taxes will provide information on both actual labor income and ability that was not provided by the labor income taxes.

The previous Part explained its analysis in terms of taxpayer responses rather than in terms of the information elicited by the government. Because tax gaming responses serve to conceal information that the government seeks to elicit, analysis of distortionary responses can be explained in terms of the implications for the information available to the government, and vice versa. But describing this Article's framework in terms of taxpayer responses makes it easier to apply the framework based on what the literature suggests about how taxpayers respond to real world tax instruments.

Building on the previous Part's analysis, this Part first expands this Article's framework by considering a number of complicating factors. This Part then considers the application of this framework to the question of whether legal rules should be designed to promote distributional equity.

#### *A. Expanding the Framework by Relaxing Simplifying Assumptions*

The analysis in the previous Part was based on following most of the assumptions underlying double-distortion models, generalizing only by incorporating a wider variety of distortionary and overhead costs. Because one of this Article's goals is to demonstrate how the policy conclusions reached by double-distortion arguments should be adjusted in light of tax gaming responses, the exposition was made simpler by following the assumptions of the double-distortion approach as closely as possible. Thus, as noted earlier, the previous Part did not consider potential complications such as (1) taxpayer heterogeneity other than in earning ability, (2) nonseparable preferences in labor and consumption, (3) non-well-behaved utility or cost functions, (4) externalities, (5) tax salience effects, (6) political economy considerations, (7) cross elasticities, (8) general equilibrium effects, income effects, or (9) nonwelfarist considerations.

This Section evaluates potential complications related to the first six of these.<sup>174</sup> The first two of these complications have received the most attention in the previous economics-oriented literature, and in particular, are the subject of an extended debate between Chris Sanchirico and several prominent advocates of double-distortion argu-

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<sup>174</sup> Space and scope constraints prevent me from evaluating the implications of relaxing the other assumptions underlying this Article's framework, double-distortion models, or optimal tax theory more generally. I hope that future work will explore the implications for this Article's policy prescriptions of relaxing these other assumptions.

ments.<sup>175</sup> The third, fourth, and fifth of these complications relate to the question of whether tax gaming distortions might somehow be fundamentally less costly than are labor-to-leisure distortions, from a social welfare perspective. The sixth of these complications is perhaps the most important respect in which this Article's framework abstracts from important concerns related to real world tax policy.

In evaluating the implications of relaxing assumptions, it should be kept in mind that the key question is not whether these assumptions reflect true facts about the real world.<sup>176</sup> Remember that optimal tax theory is premised on governments having limited information about taxpayers.<sup>177</sup> Therefore, the question should be whether these assumptions bias the prescriptions generated in an unwarranted direction.

For instance, consider the assumption that taxpayers face continuously increasing marginal costs to reducing their tax liabilities. This assumption is a driving force behind the prescriptions generated by this Article's framework. Accordingly, I argue that this assumption is a warranted inference about a general tendency of the real world.<sup>178</sup> Certainly, this assumption may not always hold in all real world contexts. Thus, to the extent that governments can obtain usable information about the contexts in which this assumption does not hold, governments should potentially adjust the prescriptions generated by this Article's framework to account for that information. Yet, in the absence of such information, I argue that relying on this assumption drives the prescriptions generated in a warranted direction.

In contrast, I argue that there is no general reason for inferring that relaxing the other assumptions of this Article's framework should bias the prescriptions generated in any particular direction. Again, to the extent that governments can obtain usable information about the implications of relaxing these assumptions, governments should potentially adjust the prescriptions generated by this Article's framework to account for that information. Yet, in the absence of such information, I argue that there are no warranted inferences that can be made about the general implications of relaxing these assumptions.

Overall, then, the policy prescriptions generated by this Article's framework should have persuasive force for anyone interested in optimizing distribution and efficiency, at least as baselines. These pre-

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<sup>175</sup> See notes 188-96 and accompanying text.

<sup>176</sup> For a general discussion the role of assumptions in modeling tax policy problems, see Sarah Lawsky, *How Tax Models Work*, 53 B.C. L. Rev. 1657, 1660-66 (2012).

<sup>177</sup> If governments had perfect information about taxpayers, then governments could simply assign a tax liability to each taxpayer, thereby eliminating most distortionary costs. See notes 70-71 and accompanying text.

<sup>178</sup> See Subsection III.A.2.

scriptions potentially should be modified in any policy contexts in which governments can obtain usable information about the implications of relaxing the assumptions of this Article's framework. But even then, this Article's arguments about the potential implications of tax gaming responses should probably play at least a part in the overall analysis.

### 1. *Taxpayer Heterogeneity and Nonseparable Preferences*

Much of the existing economics-oriented literature challenging double-distortion arguments has focused on the implications of relaxing two assumptions related to taxpayer heterogeneity and nonseparable preferences. The first of these assumptions—that taxpayers are homogeneous except in their ability to earn labor income—implies that the ability to earn labor income is the only characteristic of taxpayers relevant for distribution. The second of these assumptions—that preferences are weakly separable between labor and consumption—“implies that, for a given level of after-income-tax income, individuals will allocate their disposable income among commodities in the same manner regardless of the level of labor effort required to generate that level of income.”<sup>179</sup>

It is because I have been following these two assumptions of double-distortion arguments that, until now, I have stated that labor-to-leisure responses are multi-instrument responses for purposes of comparing a labor income tax to most other possible tax instruments. Relaxing these assumptions, labor-to-leisure responses sometimes may operate at least partially as single-instrument responses. Indeed, there is general agreement that it is optimal to tax at higher rates any goods or transactions that are complements to leisure.<sup>180</sup> So, for instance, if movie tickets are leisure complements, then by levying an extra excise tax on movie tickets, we can disincentivize labor-to-leisure responses. When comparing the labor income tax to an excise tax on movie tickets, then, labor-to-leisure substitutions would operate at least partially as single-instrument distortions affecting only the labor income tax.

Relatedly, if the government can identify characteristics of taxpayers that are correlated with ability—controlling for labor income earned—then there is general agreement that it is optimal for the government to levy higher taxes on taxpayers with these characteristics.<sup>181</sup> The literature sometimes describes the practice of adjusting tax rates

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<sup>179</sup> Kaplow, note 16, at 127.

<sup>180</sup> See *id.* at 102, 137-41.

<sup>181</sup> See *id.* at 139-40.

based on these characteristics as “tagging for ability.”<sup>182</sup> As with leisure complements, when comparing a labor income tax to alternative tax instruments that tag for ability, labor-to-leisure responses operate at least partially as single-instrument distortions.

If we know which goods and transactions are leisure complements or are correlated with tags for ability, then it is relatively straightforward to make the proper adjustments when applying either double-distortion models or this Article’s framework.<sup>183</sup> For this Article’s framework, to the extent that labor-to-leisure substitutions operate as single-instrument responses when comparing the labor income tax to another tax instrument, this places weight toward relying more on any tax instruments that burden leisure complements or tag for ability.<sup>184</sup> As with any other single-instrument distortions, determining the optimal choice of tax instruments requires balancing the goal of minimizing the single-instrument component of labor-to-leisure distortions against any competing social welfare concerns, such as minimizing other distortionary or overhead costs. The framework presented in Part II can thus accommodate relaxing the assumptions that taxpayers are homogeneous except in their earning ability and that preferences are weakly separable between labor and consumption. Relaxing these assumptions has implications for assessing the relevant empirical parameters—as labor-to-leisure substitutions may not fully operate as multi-instrument responses—but the framework then can be applied based on best estimates for the relevant empirical parameters, accounting for the implications of leisure complements and tags for ability.<sup>185</sup>

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<sup>182</sup> Some of the literature defines “tagging for ability” solely with respect to the government adjusting tax rates based on immutable taxpayer characteristics. But the logic behind tagging for ability can apply even if characteristics are somewhat mutable. See *id.* at 140 (“The relevant question is whether, assuming two individuals were to earn the same income, the higher-ability person would, relative to the other, prefer a different mix of commodities. If so, by taxing what higher-ability individuals prefer relative to what low-ability individuals prefer, one can accomplish additional redistribution without causing as much distortion of labor supply.”).

<sup>183</sup> See *id.* at 137-41.

<sup>184</sup> Conversely, if a tax instrument burdens labor complements, this places weight toward relying less on this tax instrument or even assessing the tax instrument at a negative rate (so that it becomes a subsidy).

<sup>185</sup> A virtue of this Article’s proposed sufficient-statistics-based approach is that empirical studies can potentially estimate the aggregate category of the elasticity of single-instrument responses, without necessarily needing to analyze the distinct structural components of this category. For instance, an empirical study examining how sales tax revenues react to legislated changes to labor income tax rates could potentially estimate the extent to which responsiveness to the labor income tax is single-instrument or multi-instrument as compared to the sales taxes, without the need for knowing the extent to which the single-instrument portions of this responsiveness result because of labor income tax gaming or

To the extent that tax instruments other than a labor income tax can be designed to elicit relevant information about leisure complements or tags for ability, double-distortion scholarship generally agrees that these tax instruments should be used for distributive purposes.<sup>186</sup> Yet the advocates of double-distortion arguments contend that governments generally lack the information needed to design tax instruments other than a labor income tax so as to meaningfully elicit this information, except for in a few limited contexts that should be considered exceptions to the general rule.<sup>187</sup> Much of the debate surrounding double-distortion arguments in the previous literature thus focuses on whether and how tax instruments might be designed so as to elicit information about leisure complements or tags for ability.

In a series of articles, Sanchirico has offered a deeper critique of the reliance on the assumptions of taxpayers being homogeneous except in earning ability and of weak separability between labor and consumption by scholars advocating double-distortion arguments, such as Joseph Bankman, David Weisbach, and Louis Kaplow.<sup>188</sup> Again, these scholars agree that, in theory, tax instruments other than a labor income tax should be used for distribution to the extent that meaningful information can be elicited about leisure complements or tags for ability.<sup>189</sup> But, for most important debates, such as whether capital income should be taxed, or only labor income, these scholars argue that we do not know how to design tax instruments other than a labor income tax so as to elicit meaningful information and that we do not even know whether capital income should be taxed or subsidized.<sup>190</sup> These scholars thus argue for relying on the results of double-distortion models as a baseline, such that analysts should start with the presumption that all distribution should be conducted through the labor income tax, with adjustments then made to account for any information we can elicit about which goods and transactions operate as leisure complements or tags for ability.<sup>191</sup>

In response to this position, Sanchirico rejects the baseline that all distribution should be conducted through the labor income tax. Sanchirico agrees that we have limited information on what goods and

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because the sales tax somehow burdens leisure complements or tags for ability. For further discussion, see Gamage, note 13, at 28–29.

<sup>186</sup> See Kaplow, note 16, at 136-41; Bankman & Weisbach, note 169, at 1451-55.

<sup>187</sup> See, e.g., Kaplow, note 16, at 136; Bankman & Weisbach, note 169, at 1455.

<sup>188</sup> E.g., Sanchirico, note 33, at 204-07; Chris William Sanchirico, A Counter-Reply to Professors Bankman and Weisbach, 64 *Tax L. Rev.* 551, 553-61 (2011); Chris William Sanchirico, Deconstructing the New Efficiency Rationale, 86 *Cornell L. Rev.* 1003, 1031-48 (2001).

<sup>189</sup> Kaplow, note 16, at 136-41; Bankman & Weisbach, note 169, at 1451-55.

<sup>190</sup> Bankman & Weisbach, note 169, at 1455.

<sup>191</sup> E.g., Kaplow, note 16, at 136-41; Bankman & Weisbach, note 169, at 1416-23.

transactions are leisure complements or tags for ability, and that, for instance, we lack the information needed to determine whether capital income should be taxed or subsidized.<sup>192</sup> But Sanchirico argues that we are essentially equally as clueless about how much we should rely on a labor income tax.<sup>193</sup> Sanchirico thus concludes that the best we can do is to build models based on all available information, and that there is no justification for defaulting to a baseline of only using the labor income tax for distribution.<sup>194</sup>

In a sense, this debate is about where the burden of proof should lie. Scholars making double-distortion arguments contend that because a labor income or consumption tax is (so they argue) the best instrument for raising any fixed sum of revenue for distributive purposes, the burden of proof should be on those who advocate using other distributive instruments to supplement a labor income or consumption tax.<sup>195</sup> In contrast, Sanchirico contends that conducting distribution through a labor income or consumption tax should be subject to the same burden of proof as applied to alternative instruments; because it is unclear which instruments are optimal for distribution on the margin, Sanchirico argues that we should not make any presumptions.<sup>196</sup>

The approach developed in this Article should satisfy both sides of this debate (I hope). This Article focuses on the implications of tax gaming rather than on taxpayer heterogeneity or nonseparable preferences, and the framework developed in this Article thus holds even under the assumptions that taxpayers are homogeneous except in their ability to earn labor income and that preferences are weakly separable in labor and consumption. This Article's framework can readily incorporate any available information about the implications of relaxing these assumptions, but the policy prescriptions offered are not based on the implications of relaxing these assumptions. Hence, in accordance with the double-distortion position, this Article's framework is designed to make concrete recommendations about ways in which additional distributive instruments can be used to supplement a labor income or consumption tax. Moreover, in accordance with Sanchirico's position, this Article's framework is designed to incorporate all available information about tax responsiveness;<sup>197</sup> the policy

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<sup>192</sup> Sanchirico, note 33, at 224.

<sup>193</sup> Chris William Sanchirico, *Optimal Tax Policy and Symmetries of Ignorance*, 66 *Tax L. Rev.* 1, 62 (2012).

<sup>194</sup> *Id.*

<sup>195</sup> See Kaplow, note 16, at 147.

<sup>196</sup> Sanchirico, note 193, at 37.

<sup>197</sup> This Article does rely on simplifying assumptions in order to keep the analysis tractable, but an analyst wishing to build, for instance, a full general equilibrium model (for

prescriptions developed below and in the companion piece are thus offered as attempts at best estimates based on the available empirical evidence and on inductive inferences about the relevant empirical parameters.

## 2. *The Tax-Smoothing Principle*

Microeconomic analyses generally assume that utility and cost functions are “well-behaved” in certain respects, although there is no universal definition of what it means for a function to be well behaved.<sup>198</sup> Up to now, I have assumed that taxpayers face continuously increasing marginal costs to reducing their tax liabilities. The tax-smoothing principle follows from these assumptions.<sup>199</sup> This Subsection argues that these assumptions should generally hold, although there may be exceptions in particular contexts. For now, I continue to assume that taxpayers act in an economically rational fashion such that there are no salience effects—that taxpayers perfectly optimize based on the incentives that they face.<sup>200</sup>

To begin with, at least near the margin, taxpayers must incur costs in order to reduce their tax liabilities through distortionary behaviors.<sup>201</sup> To see why, imagine if a taxpayer could reduce her tax liability costlessly and without limits. Why should this taxpayer then pay any taxes?

Conceivably, some costless tax-reduction techniques might have built-in limits on the extent to which they can be used to reduce tax liabilities. Yet the use of these techniques should always be inframarginal with respect to the tax rate, making these techniques irrelevant for most optimal-choice-of-tax-instruments questions.<sup>202</sup>

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computer simulation) could generalize this Article’s framework by relaxing these simplifying assumptions while still preserving this Article’s insights about the implications of the different types of distortionary and overhead costs. Importantly, the implications of this Article’s analysis of tax gaming responses are not driven by restrictive assumptions about taxpayer heterogeneity.

<sup>198</sup> Economists frequently consider functions to be “well behaved” if the functions are twice differentiable. E.g., Jean-Marie Huriot & Jacques-Francois Thisse, *Economics of Cities: Theoretical Perspectives* 348 (2000).

<sup>199</sup> See notes 87–89 and accompanying text.

<sup>200</sup> I evaluate the implications of relaxing this assumption in Subsection III.A.4.

<sup>201</sup> By “costs,” I mean any factor that might prevent a taxpayer from acting to reduce tax liabilities. So, for instance, both social norms and taxpayers’ internal motivations to follow the law or to act in a pro-social fashion constitute “costs” under my definition, to the extent that these factors might prevent taxpayers from acting to reduce their tax liabilities.

<sup>202</sup> For instance, if a taxpayer considers it costless to contribute to a tax-favored pension account up to the legal limits, then it follows that the taxpayer should make such contributions up to the legal limits (or up to the point of completely eliminating all tax liability). For this taxpayer, this tax reduction strategy is inframarginal with respect to the tax rate, because the taxpayer should use this strategy up to the legal limits, regardless of the setting

Regardless of the tax rate, taxpayers should make use of any costless tax-reduction techniques either up to the point where the taxpayers completely eliminate their tax liabilities or up to point of any built-in limits on the use of these techniques.

The same logic applies to most tax-reduction techniques for which the marginal costs to the taxpayer of reducing a dollar of tax liability are less than a dollar. For this reason, one can infer that taxpayers generally face increasing marginal costs to engaging in distortionary tax-reduction behaviors. In the absence of increasing marginal costs, taxpayers would either completely eliminate their tax liabilities or else engage in no tax-reduction techniques whatsoever, depending on whether the (nonincreasing) marginal costs of tax-reduction behaviors were respectively less than or greater than their marginal tax rates. Because we can observe that many real world taxpayers engage in some tax-reduction techniques without completely eliminating their tax liabilities, it follows that there must be increasing costs to the tax-reduction techniques used by these taxpayers, at least near the margin. As Chetty explains:

Does the efficiency cost of taxation depend on whether the taxable income elasticity is driven by avoidance and evasion rather than changes in labor supply? Existing studies . . . suggest that the answer is no, as long as there are no changes in tax revenue from other tax bases. . . . The intuition underlying this conclusion is straightforward. An optimizing agent equates the marginal cost of sheltering \$1 of income from taxation with the net marginal cost of reducing earnings by \$1, so the reason that reported taxable income falls does not matter for efficiency calculations.<sup>203</sup>

At least near the margin then, taxpayers' costs of engaging in additional tax-reduction behaviors must approximately equal the relevant effective marginal tax rates, regardless of the extent to which taxpayers' marginal distortionary behaviors consist of labor-to-leisure substi-

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of the tax rate. For further discussion of the implications of tax-reduction techniques that are inframarginal with respect to the tax rate, see Slemrod & Yitzhaki, note 121, at 63 ("A critical aspect of this technology is whether the avoidance is inframarginal, in which case only income effects are involved, or whether its cost depends on other aspects of behavior.").

<sup>203</sup> Raj Chetty, *Is the Taxable Income Elasticity Sufficient to Calculate Deadweight Loss? The Implications of Evasion and Avoidance*, 1 *Am. Econ. J.: Econ. Pol'y*, Aug. 2009, at 31, 32. Chetty proceeds to analyze limitations to this result based on the possibility of externalities or salience effects, complications that I discuss below. *Id.* at 43-44.

tutions, tax avoidance, tax evasion, or any other tax-reduction techniques.<sup>204</sup>

To extend this analysis to taxpayers' cost and utility functions away from the margin, it is useful to inquire further into the nature of the costs that taxpayers incur when reducing their tax liabilities through distortionary behaviors. To this end, the costs that taxpayers incur to engage in distortionary behaviors can be divided into two broad categories—friction costs and sanction costs. "Friction costs" refer to when taxpayers receive less utility from the choices they make in order to reduce their tax liabilities than they would have received from the choices they would have made in the absence of taxation.<sup>205</sup> "Sanction costs" refer to when taxpayers' expected utility is lower on account of the possibility of the taxpayers facing penalties as a result of tax enforcement agencies' responses to the choices the taxpayers make to reduce their tax liabilities.<sup>206</sup>

Taxpayers thus incur friction costs when engaging in labor-to-leisure distortions and in most other distortionary behaviors that are less contingent on the details of the tax system, as these behaviors involve taxpayers altering their behavior in a manner that creates deadweight loss. Perhaps less intuitively, most forms of tax avoidance and tax evasion also involve friction costs, especially for the techniques frequently employed by high-income taxpayers.<sup>207</sup> Consider that tax lawyers are taught that the goal of tax planning is to understand clients' preferences and to recommend how clients might restructure their affairs so as to pay less in taxes while interfering with the clients' nontax preferences as little as possible.<sup>208</sup> Inherent in this maxim is the notion that clients should first engage in tax-minimization techniques that require the least sacrifice of nontax preferences, proceeding to techniques that require greater sacrifice of nontax preferences

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<sup>204</sup> This point was first developed in seminal work by Martin Feldstein. See Martin Feldstein, *Tax Avoidance and the Deadweight Loss of the Income Tax*, 81 *Rev. of Econ. & Stat.* 674 (1999); Martin Feldstein, *The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act*, 103 *J. Pol. Econ.* 551 (1995). For further discussion, see Chetty, note 22, at 467-70.

<sup>205</sup> The term "friction" is used to emphasize that taxpayers incur costs as a result of changing their behaviors—that substitutions are costly.

<sup>206</sup> These penalties can be legal (for example, fines), social (for example, shame), or psychological (for example, guilt) in nature, or a mixture of all of these.

<sup>207</sup> I thus avoid the common parlance of describing labor-to-leisure substitutions and other distortionary behaviors that are less contingent on the details of the tax system as "real responses." See Joel Slemrod, *The Consequences of Taxation*, 23 *Soc. Phil. & Pol'y* 73, 73 (2006).

<sup>208</sup> See, e.g., Livingston & Gamage, note 110, at 654 (explaining that tax planning for choice of entities "comes down to a balancing of tax and business factors or—what amounts to the same thing—to trying to reduce taxes without sacrificing any practical goals that one or more parties is unwilling to compromise").

only once the less costly techniques are exhausted, and stopping at the point where the marginal cost from sacrificing nontax preferences exceeds the marginal tax benefit.

Common frictions include taxpayers' preferences regarding risk bearing, accounting conventions, timing, control, location, and other aspects of work environment or lifestyle.<sup>209</sup> Some frictions operate by reducing the resources taxpayers have to fund market consumption, such as by making business activities less profitable. Other frictions operate by reducing the utility taxpayers derive from sources other than market consumption, such as by reducing leisure or by reducing the psychic income aspects of the work environment. And, of course, some frictions operate on both of these dimensions.

All of these friction costs require taxpayers to sacrifice their nontax preferences in order to reduce their tax liabilities.<sup>210</sup> Thus, to the extent that taxpayers opt to incur friction costs in order to reduce their tax liabilities, all of these friction costs create deadweight loss.<sup>211</sup> Again, taxpayers generally can be expected to first engage in those tax-minimization techniques that require the least sacrifice of non-tax preferences, proceeding to techniques that involve greater friction costs only once the less costly techniques have been exhausted. Therefore, taxpayers generally should experience increasing marginal friction costs from engaging in tax-minimization behaviors.<sup>212</sup>

The second category—sanction costs—includes taxpayers' expected utility losses from fines, imprisonment, social stigma, legal expenses, and the other potential consequences of the tax authority's enforcement actions. Sanction costs are primarily relevant for tax-evasion behaviors. But remember that it is often impossible to draw a clear *ex ante* distinction between (legal) tax avoidance transactions and (illegal) tax evasion transactions. Hence, another maxim of tax planning is that "pigs get rich, but hogs get slaughtered."<sup>213</sup> The lesson is that moderately aggressive tax planning techniques often pay off, but that being overly aggressive is likely to result in the tax authority taking enforcement actions. In addition to numerous other anti-abuse rules,

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<sup>209</sup> For discussion of types of frictions, see, e.g., Myron Scholes, Mark Wolfson, Merle Erickson, Edward Maydew & Terry Shevlin, *Taxes and Business Strategy: A Planning Approach* 92-93 (2d ed. 2002); David M. Schizer, *Frictions as Constraints on Tax Planning*, 101 *Colum. L. Rev.* 1312, 1316-33 (2001).

<sup>210</sup> See, e.g., Scholes et. al., note 209, at 127 ("We cannot emphasize too strongly the importance of these nontax costs in forging efficient tax plans.")

<sup>211</sup> See Leigh Osofsky, *Who's Naughty and Who's Nice? Frictions, Screening, and Tax Law Design*, 61 *Buff. L. Rev.* 1057, 1064-65 (2013).

<sup>212</sup> Of course, there may be exceptions to this general rule in particular policy contexts.

<sup>213</sup> Calvin H. Johnson, *Play Money Basis: When Is Nonrecourse Liability a Valid Cost?*, 11 *Va. Tax Rev.* 631, 633 n. 10 (1992). I convey this idea to my students with the alternative phrasing of "cows get fed, but pigs get slaughtered."

U.S. tax law is governed by economic substance and related doctrines whereby the tax authority can argue that a transaction should be taxed based on its underlying economic substance rather than its form.<sup>214</sup> Consequently, it is often difficult to predict *ex ante* whether the tax authority will challenge a transaction, and much of the art of practicing tax law involves attempting to determine how much aggressiveness taxpayers can get away with.

A common approach for modeling tax evasion behavior within the economics literature builds on the foundational Allingham-Sandmo model.<sup>215</sup> Important parameters affecting the extent to which taxpayers engage in tax evasion, under this model, are the level of sanctions and the probability of sanctions being imposed.<sup>216</sup> However, analysts employing the Allingham-Sandmo approach sometimes use the audit rate as a proxy for the probability of sanctions being imposed, modeling the audit rate as exogenous to taxpayers' choices.<sup>217</sup> In my view, this is mistaken for at least two reasons.<sup>218</sup> First, the Service and other tax authorities do not select which taxpayers to audit completely randomly, but rather are more likely to audit taxpayers engaging in suspicious behaviors. Second, selecting a taxpayer for audit does not necessarily enable the tax authority to detect any tax evasion engaged in by that taxpayer; instead, the probability of tax evasion being detected upon audit is partially a function of the aggressiveness of the taxpayer's tax evasion behaviors.

Controlling for the characteristics of a taxpayer, then, the greater the percentage of taxable income concealed from the tax authority through tax evasion, the more likely that the tax authority will audit

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<sup>214</sup> For discussion, see, e.g., James S. Halpern, *Putting the Cart Before the Horse: Determining the Economic Substance Independent of the Language of the Code*, 30 *Va. Tax Rev.* 327 (2010). The questions of whether these doctrines should be considered as separate doctrines or as variations on the same doctrine, and of how the recent codification affects these doctrines, are tangential for this Article's purposes.

<sup>215</sup> For discussion, see, e.g., Agnar Sandmo, *The Theory of Tax Evasion: A Retrospective View*, 58 *Nat'l Tax J.* 643, 646-48 (2005).

<sup>216</sup> *Id.* at 646-48.

<sup>217</sup> *Id.* at 648-49. The more sophisticated recent literature on tax compliance often does treat the audit rate as endogenous. See, e.g., Leandra Lederman & Ted Sichelman, *Enforcement as Substance in Tax Compliance*, 70 *Wash. & Lee L. Rev.* 1679, 1693 (2013). Nevertheless, scholars writing on the relationship between tax evasion and tax rates sometimes continue to base their work on simplistic versions of the Allingham-Sandmo model that treat the audit rate as exogenous. E.g., Amedeo Pioletto & Matthew D. Rablen, *Prospect Theory and Tax Evasion: A Reconsideration of the Yitzhaki Puzzle 1* (Inst. for the Study of Labor, IZA Discussion Paper No. 7760, 2013), available at <http://ftp.iza.org/dp7760.pdf>. As the above discussion should clarify, properly treating the audit rate as exogenous reveals that tax evasion behavior generally should increase with the relevant effective tax rates.

<sup>218</sup> See also James Andreoni, Brian Erard & Jonathan Feinstein, *Tax Compliance*, 36 *J. Econ. Literature* 818, 824-25 (1998); Lederman & Sichelman, note 217, at 1693.

and detect the tax evasion and levy sanctions. Consider a few illustrative examples. First, a strategy many tax authorities use to identify whether taxpayers are failing to report income is to compare a taxpayer's reported income to her expenditures.<sup>219</sup> Thus, the greater the gap between the expenditures that the tax authority can measure and the income reported to the tax authority, the more likely that the tax authority will suspect that a taxpayer is concealing income. Second, for tax evasion techniques that involve inflating the value of deductions or exclusions or understating the value of taxable goods received, the more aggressive a taxpayer is when reporting valuations, the more likely that the tax authority will challenge the valuations and levy sanctions.<sup>220</sup> Finally, when tax authorities suspect that a taxpayer is engaging in a tax evasion transaction, the tax authorities may then scrutinize other components of the taxpayer's returns for both the tax year in question and also for prior and future tax years.<sup>221</sup> Therefore, a taxpayer who has already engaged in some level of tax evasion, and is considering whether to evade further, should consider that additional tax evasion behavior could draw attention to the tax evasion already engaged in.<sup>222</sup>

For all these reasons, the magnitude of expected sanction costs generally should increase with the aggressiveness of a taxpayer's tax evasion behavior. As with friction costs, then, taxpayers generally should first engage in less aggressive tax-minimization behaviors, proceeding to tax-minimization behaviors that involve larger expected sanction costs only once the less costly behaviors have been exhausted.<sup>223</sup> As a result, taxpayers should generally experience increasing marginal expected sanction costs.<sup>224</sup>

Combining friction costs and sanction costs, taxpayers frequently take steps to reduce the probability of their tax-evasion behaviors be-

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<sup>219</sup> Taxpayers whose income is subject to reporting often will find it difficult to conceal this income from the tax authority, but taxpayers operating in the cash economy often have substantial scope for concealing income.

<sup>220</sup> See Mark P. Gergen, *Uncertainty and Tax Enforcement: A Case For Moderate Fault-Based Penalties*, 64 *Tax L. Rev.* 453, 459-61 (2011).

<sup>221</sup> See Eduardo M.R.A. Engel & James R. Hines, *Understanding Tax Evasion Dynamics 1-2* (Nat'l Bureau Econ. Research, Working Paper No. 6903, 1999), available at <http://www.nber.org/w6903>.

<sup>222</sup> *Id.*

<sup>223</sup> "Aggressiveness" is implicitly being defined here as the expected magnitude of marginal sanction costs per marginal dollar concealed from the taxpayer's tax base. The marginal tax benefit from tax evasion behaviors equals the marginal dollar concealed from the taxpayer's tax base multiplied by the relevant effective marginal tax rate. Increasing the effective marginal tax rate should thus induce both a greater magnitude of tax evasion behaviors and more costly tax evasion behaviors at the margin, as discussed (more generally) in notes 86-89 and accompanying text.

<sup>224</sup> Again, there may be exceptions to this general rule in particular policy contexts.

ing detected. For instance, taxpayers engaging in aggressive tax shelter transactions often use excessively complicated organization forms or otherwise convolute their transactions so as to make it more difficult for the tax authority to understand that the transactions are tax motivated.<sup>225</sup> Taxpayers may thus be able to reduce expected sanction costs by incurring friction costs. But, again, taxpayers generally should start with those tax-reduction behaviors that involve less overall cost, proceeding to more costly tax-reduction behaviors only once the less costly behaviors have been exhausted.

Overall, then, examining the nature of both friction costs and sanction costs lends further support to the conclusion that taxpayers generally face increasing marginal costs to engaging in tax-reduction behaviors, including for techniques that might be characterized as tax avoidance or tax evasion. As explained earlier, because taxpayers face increasing marginal costs to engaging in tax-reduction behaviors, one can infer that distortionary costs rise exponentially with the relevant marginal tax rates.<sup>226</sup> For these reasons, examining the nature of distortionary costs further demonstrates that the tax-smoothing principle generally should apply for tax-avoidance and tax-evasion behaviors.

Of course, that taxpayers generally face increasing marginal costs to engaging in tax-reduction behaviors does not necessarily imply that these cost functions are continuous or even monotonic. With respect to individual taxpayers, we might expect cost functions to often be lumpy and irregular. Many of the basic prescriptions of optimal tax theory potentially need to be qualified to the extent that taxpayers' cost or utility functions may be non-well-behaved in these respects.<sup>227</sup> The standard response is that while an individual taxpayer's cost and utility functions may be lumpy or irregular, these forms of lumpiness and irregularity should largely smooth out when we examine the aggregate cost or utility functions of larger populations of taxpayers. In most contexts, we can thus expect the aggregate utility and cost functions of large populations of taxpayers to be approximately continuous and otherwise well-behaved. Certainly, there may be exceptions to this general rule in particular contexts, and the prescriptions generated by both standard optimal tax models and this Article's framework may need to be qualified within those particular contexts. Nevertheless, it seems reasonable to infer that, as a general matter, taxpayers' marginal costs to engaging in tax-reduction behaviors should mostly rise in an approximately continuous fashion, such that

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<sup>225</sup> See Livingston & Gamage, note 110, at 672.

<sup>226</sup> See notes 86–89 and accompanying text.

<sup>227</sup> For a sample discussion, see Kaplow, note 16, at 73-74.

the tax-smoothing principle generally should apply in most policy contexts.<sup>228</sup>

Overall then, the assumptions needed for the tax-smoothing principle to generally hold are rather modest.<sup>229</sup> For the reasons discussed, taxpayers should generally engage in less costly tax-reduction behaviors before engaging in more costly tax-reduction behaviors. And taxpayers should generally engage in tax-reduction behaviors up to the point where the marginal costs of engaging in additional tax-reduction behaviors would exceed the marginal benefits from tax savings. Consequently, taxpayers generally should face increasing marginal costs to engaging in additional tax-reduction behaviors, and this is all that is needed for the tax-smoothing principle to generally apply.<sup>230</sup>

### 3. *Externalities*

Most economic analyses assume that the private costs of individual actions equal the social costs. The term “externalities” is used to indicate when social costs differ from private costs, with the term “negative externalities” used when social costs exceed private costs and the term “positive externalities” used when private costs exceed social costs. It is generally understood that tax system design should take account of externalities, with the general prescription being that decisions producing negative externalities should be subject to higher

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<sup>228</sup> It may be worth noting here that sophisticated economic modeling rarely makes use of the tax-smoothing principle. Instead, sophisticated economic models typically rely on a related concept, which is sometimes called the “envelope theorem.” See, e.g., Hendren, note 52, at 3; Sanchirico, note 33, at 215-16. The basic intuition underlying the envelope theorem is that levying infinitesimally small taxes generates zero distortionary costs but can raise positive revenue (albeit, infinitesimally small amounts of positive revenue). The envelope theorem relies on fewer assumptions and is easier to apply in formal mathematical modeling, as compared to the tax-smoothing principle. Nevertheless, I rely on the tax-smoothing principle in this Article because the envelope theorem has limited ability to make prescriptions except for infinitesimally small changes near the margin. For this Article’s purposes, it is important to be able to evaluate the implications of larger policy changes, which requires making assumptions about taxpayers’ utility and cost functions away from the margin. For instance, Kyle Logue and Ronen Avraham dismiss Sanchirico’s analysis based on a version of the envelope theorem for precisely this reason—that the envelope theorem cannot be used to meaningfully evaluate the implications of policy changes that are not infinitesimally small. Kyle Logue & Ronen Avraham, *Redistributing Optimally: Of Tax Rules, Legal Rules, and Insurance*, 56 *Tax L. Rev.* 157, 203-06 (2003). Logue and Avraham’s critique thus does not apply to this Article’s analysis, which is based on the tax-smoothing principle rather than the envelope theorem.

<sup>229</sup> The tax-smoothing principle does rely on stronger assumptions than does the envelope theorem, see note 228, but these assumptions are nevertheless modest in that there is strong reason to infer that the tax-smoothing principle should generally apply in most policy contexts, as discussed above.

<sup>230</sup> See notes 86–89 and accompanying text.

levels of taxation and that decisions producing positive externalities should be subject to lower levels of taxation (or even subsidized).<sup>231</sup>

Several scholars have contended that tax-gaming distortions may in some instances involve significant externalities.<sup>232</sup> Perhaps most importantly, some tax-reduction techniques involve taking advantage of tax incentives purposefully designed by the government—such as the charitable contribution deduction. To the extent that taxpayers' claiming charitable contribution deductions encourages socially valuable donations to charities, these tax-reduction techniques may involve positive externalities.

Note, however, that many tax-reduction techniques involve inflating the deductions claimed for charitable contributions or otherwise taking deductions for charitable contributions of dubious social value.<sup>233</sup> One should thus not assume that all charitable contribution deductions generate significant positive externalities. The same is even truer for most other tax incentives purposefully created by the government—often called tax expenditures.<sup>234</sup> For instance, much of the literature on the home-mortgage-interest deduction questions whether the behaviors induced by this deduction produce any meaningful positive externalities.<sup>235</sup>

In addition to classical externalities like those associated with charitable contributions, scholars have noted that some of the costs taxpayers incur when engaging in tax-reduction techniques may represent transfers to the government or to other parties.<sup>236</sup> These transfers are sometimes referred to as “fiscal externalities.”<sup>237</sup> For instance, monetary fines collected for tax evasion represent private costs to the taxpayers, but not social costs, because the money paid by taxpayers is received by the government.<sup>238</sup> But note that it is not at all clear whether monetary fines transferred to the government are an especially important factor in deterring tax-evasion behavior, as compared to (for example) the psychic costs and time lost from being engaged in

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<sup>231</sup> David Gamage, *Taxing Political Donations: The Case for Corrective Taxes in Campaign Finance*, 113 *Yale L.J.* 1283, 1292 (2004).

<sup>232</sup> See e.g., Saez et al., note 17, at 15-16.

<sup>233</sup> See Livingston & Gamage, note 110, at 442-45 (describing tax-gaming transactions based on exploiting the rules for charitable contribution deductions).

<sup>234</sup> For discussion, see, e.g., Edward D. Kleinbard, *The Congress Within the Congress, How Tax Expenditures Distort Our Budget and Our Political Process*, Woodworth Memorial Lecture (May 7, 2009), in 36 *Ohio N.U. L. Rev.* 1, 12-18 (2010).

<sup>235</sup> See Dennis J. Ventry, Jr., *The Accidental Deduction: A History and Critique of the Tax Subsidy for Mortgage Interest*, 73 *L. & Contemp. Probs.* 233, 278 (2010) (“The economic case against the [home mortgage interest deduction], strengthening over fifty years, is indisputable.”).

<sup>236</sup> Saez et al., note 17, at 10-11.

<sup>237</sup> *Id.*

<sup>238</sup> Chetty, note 203, at 36.

disputes with the tax authority, the risk-bearing costs borne by risk-averse taxpayers, and social stigma.<sup>239</sup>

Also, it may be that the private costs to taxpayers from certain tax-reduction behaviors may exceed the social welfare costs that result from these behaviors to the extent that the behaviors provide information to the government that can improve the accuracy of the tax system at measuring factors relevant for distribution.<sup>240</sup> Some scholars have also suggested that portions of the costs affecting taxpayers' decisions about whether to engage in tax-evasion behaviors should be discounted from a social welfare perspective, on account of these behaviors being illegal or antisocial.<sup>241</sup>

Importantly, tax-reduction behaviors may also produce negative externalities, of both the "classical" and the "fiscal" varieties. For instance, the more that taxpayers engage in tax evasion behaviors, the higher the administrative costs the government may need to incur in order to enforce the tax system. Taxpayers' decisionmaking should factor in the extent to which engaging in tax evasion increases taxpayers' private compliance costs, but to the extent that tax evasion behavior increases the government's enforcement costs, this represents a negative fiscal externality.<sup>242</sup>

Probably more importantly, the literature suggests that taxpayers engaging in tax-avoidance or tax-evasion behaviors can undermine tax morale and thereby decrease other taxpayers' compliance levels.<sup>243</sup>

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<sup>239</sup> See, e.g., William A. Drennan, *Strict Liability and Tax Penalties*, 62 *Okl. L. Rev.* 1, 6, 32-35 (2009).

<sup>240</sup> For instance, if raising tax rates increases taxpayers' incentives to incur costs in order to document actual business expenses, the information provided to the government through this documentation can be thought of as a positive externality offsetting the private costs incurred by the taxpayers. For further discussion, see Kaplow, note 72, at 77-79; Daniel Shaviro, *Gamage, Framework for Optimal Choice of Tax Instruments*, part 2, *Start Making Sense* (Apr. 30, 2014, 3:08 PM), <http://danshaviro.blogspot.com/2014/04/gamage-framework-for-optimal-choice-of.html>. I thank both Daniel Shaviro and Louis Kaplow for bringing this point to my attention.

<sup>241</sup> See Frank Cowell, *Cheating the Government: The Economics of Evasion* 136 (1990); Joel Slemrod, *Cheating Ourselves: The Economics of Tax Evasion*, *J. Econ. Persp. Summer*, 2007, at 25, 44. I thank David Kamin for reminding me of this point.

<sup>242</sup> Similar to prior scholars labeling fines and tax penalties as positive fiscal externalities, for example, Saez et al. note 17, at 10, any effect of taxpayers' evasion behaviors on increasing the government's enforcement costs can be considered a negative fiscal externality, in the same fashion as driving vehicles can be considered to create negative fiscal externalities through wear and tear on roads that must be maintained at the government's expense. In all of these cases, the social costs of taxpayers' decisions exceeds the private costs.

<sup>243</sup> See Leandra Lederman, *The Interplay Between Norms and Enforcement in Tax Compliance*, 64 *Ohio St. L.J.* 1453, 1508-14 (2003); Susan Cleary Morse, Stewart Karlinsky & Joseph Bankman, *Cash Businesses and Tax Evasion*, 20 *Stanford L. & Pol'y Rev.* 37, 40-41, 65-66 (2009); see also Jan Schnellenbach, *Tax Morale and the Legitimacy of Economic Policy*, 24 *Homo Oeconomicus* 21, 23 (2007) ("Reviewing the evidence, it thus appears to

Taxpayers engaging in gaming behaviors may also foster an industry for advising and facilitating aggressive tax-gaming transactions, which can lower other taxpayers' costs to engaging in tax gaming.<sup>244</sup> All factors considered, it is thus unclear whether the positive externalities or the negative externalities from tax-avoidance and tax-evasion behaviors are larger on the margin.

In any case, if we have information suggesting that any category of distortionary behaviors creates either overall positive or negative externalities, it is relatively straightforward to incorporate these externalities into optimal-choice-of-tax-instruments analysis, either when applying the double-distortion approach or when applying this Article's framework.<sup>245</sup> With respect to this Article's framework, it should be kept in mind that the goal is to minimize the social welfare costs from distortionary behaviors and from overhead costs, not taxpayers' private costs. In estimating social welfare costs, then, we should account for any significant externalities.<sup>246</sup> Based on the existing empirical and theoretical literatures, I see no convincing reason for inferring that as a general rule either positive or negative externalities are likely to strongly dominate at the margin with respect to any specific category of social welfare costs.<sup>247</sup> But the prescriptions generated by this

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be safe to state that tax morale is an empirical regularity, and that it depends systematically on the institutional environment as well as on the policy parameters chosen by the government.").

<sup>244</sup> See generally John Braithwaite, *Markets in Vice, Markets in Virtue* 52-57 (2005).

<sup>245</sup> Chetty has developed one approach for adjusting the information from taxable income elasticities to account for externalities. Chetty, note 203, at 44-45.

<sup>246</sup> In essence, we should scale up our estimates for distortionary costs to account for negative externalities or scale down these estimates to account for positive externalities. See *id.*

<sup>247</sup> Were I to hazard a guess, I probably would predict that the potential for tax-avoidance and tax-evasion behaviors to undermine tax morale and social norms favoring compliance might outweigh competing factors, suggesting that tax-gaming behaviors probably both (1) generate larger negative externalities than positive externalities, and (2) generate larger negative externalities than do labor-to-leisure distortions. But I do not have much confidence in this prediction. I am not aware of any research in the prior literature that comprehensively evaluates the various potential forms of externalities so as to analyze whether the overall externalities associated with tax avoidance or tax-evasion behaviors are likely to be positive or negative.

Further note that labor-to-leisure responses may also generate significant externalities. For instance, if higher tax rates induce some law school graduates to forgo higher-paying private sector firm jobs in favor of public interest jobs that require fewer work hours, then this might well involve positive externalities. And variations of this example might apply with respect to numerous groups of high-skill taxpayers. Conversely, I have previously argued (based on the work of Edmund Phelps) that when fiscal policies affecting low-income taxpayers cause these taxpayers to forgo formal sector work, this may generate significant negative externalities. David Gamage, *Perverse Incentives Arising from the Tax Provisions of Healthcare Reform: Why Further Reforms Are Needed to Prevent Avoidable Costs to Low- and Moderate-Income Workers*, 65 *Tax L. Rev.* 669, 704-05 (2012). Externalities are thus potentially important with respect to all forms of taxpayer

Article's framework can readily be adjusted to account for different inferences or for future empirical evidence suggesting otherwise. In any contexts in which we have reason to infer that either overall positive or negative externalities are significant, this information should be incorporated into optimal-choice-of-tax-instruments analysis.<sup>248</sup>

#### 4. *Salience Effects*

Most economic analyses assume that individuals perfectly optimize in response to the incentives created by taxation.<sup>249</sup> Yet the recent empirical literature suggests that taxpayers sometimes act based on miscalculations of their incentives—that some tax incentives may be less than fully salient and others more than fully salient.<sup>250</sup>

Based on evidence suggesting that taxpayers may perceive the fines assessed for tax evasion as higher than they actually are, Chetty has suggested that these fines may be more than fully salient with respect to decisions to engage in tax evasion.<sup>251</sup> Consequently, Chetty contends that tax-evasion responses may be less socially costly than are labor-to-leisure responses, as taxpayers may only perceive the marginal costs of tax-evasion responses as being equal to their marginal tax rate, when the actual marginal costs may be much lower.<sup>252</sup>

Chetty's argument is provocative, but considering that it is questionable whether monetary fines are an especially important compo-

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responsiveness. Yet further work is needed before one can predict with any confidence the contexts in which negative or positive externalities are likely to dominate for specific categories of distortionary responses.

<sup>248</sup> For instance, scholars evaluating reforms to the rules governing charitable contribution deductions should probably incorporate the possibility of these deductions creating positive externalities into their analysis.

<sup>249</sup> Raj Chetty, Adam Looney & Kory Kroft, *Salience and Taxation: Theory and Evidence*, 99 *Am. Econ. Rev.* 1145, 1145 (2009).

<sup>250</sup> For a review and discussion of this literature, see Gamage & Shanske, note 6, at 26-59.

Note that all of the salience effects discussed in this Subsection relate to market salience, as defined in Gamage & Shanske, note 6, at 24. Political salience effects may also be important for optimal-choice-of-tax-instruments questions, especially if the analysis is expanded to incorporate political economy concerns, as discussed in the next Subsection. This Article mostly follows the standard optimal-tax methodology of prescribing what a government should do, rather than evaluating what governments are likely to do. See Subsection III.A.5. Considering the latter, designing tax systems in different ways is likely to affect how voters perceive the tax system, with possible consequences for voters' preferences regarding distribution and other aspects of tax policy. I hope to evaluate some of these aspects of optimal-choice-of-tax-instruments questions further in future work. For an example of my prior work along these lines, see David Gamage, *Preventing State Budget Crises: Managing the Fiscal Volatility Problem*, 98 *Cal. L. Rev.* 749, 792-801 (2010).

<sup>251</sup> Chetty, note 203, at 39-41.

<sup>252</sup> *Id.*

ment of the costs of engaging in tax evasion,<sup>253</sup> I am skeptical as to whether Chetty's argument has first-order real world significance.<sup>254</sup> More generally, I do not think the literature on tax salience is as of yet sufficiently developed for us to predict with any confidence the overall implications of tax salience effects for most optimal-choice-of-tax-instruments questions.<sup>255</sup> Nevertheless, as with externalities, there may be exceptions in particular policy contexts, or others' inferences or future empirical work might suggest more generalizable inferences about the implications of salience effects. To the extent such generalizable inferences are available, it is relatively straightforward to incorporate salience effects into optimal-choice-of-tax-instruments analysis, either when employing the double-distortion approach or this Article's framework. Chetty has demonstrated how social welfare calculations can be adjusted to account for salience effects, in a similar fashion to how adjustments can be made to account for externalities.<sup>256</sup>

As an aside, it is perhaps worth noting an aspect of salience effects that may strengthen the case for employing multiple tax instruments rather than relying exclusively on a labor income or consumption tax for distribution. There is evidence suggesting that the market-incentive effects of taxation may be less salient when multiple tax instruments are used as compared to when only a single tax instrument is levied with higher rates.<sup>257</sup> To the extent this is so, all tax-reduction behaviors might function at least partially as single-instrument distortions. In other words, levying multiple tax instruments might make taxpayers less likely to engage in distortionary responses even for those distortionary responses that would be capable of reducing tax liabilities under all of the tax instruments. However, because the literature has not yet developed to a point where we can confidently predict the circumstances under which this salience effect is likely to manifest,<sup>258</sup> I do not incorporate the implications of this phenomenon into the policy prescriptions offered below or in the companion article. In contexts where this salience effect is relevant, the case for em-

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<sup>253</sup> See note 239 and accompanying text.

<sup>254</sup> Fully discussing this point is beyond the scope of this Article, but it may be worth briefly mentioning that my tentative suspicion is that taxpayers overestimate monetary fines because the taxpayers understand on some level that the overall sanction costs for tax-evasion may be high but that these costs are largely nonmonetary in nature.

<sup>255</sup> See David Gamage, *On the Future of Tax Salience Scholarship: Operative Mechanisms and Limiting Factors*, 41 Fla. St. U. L. Rev. 173, 174 (2013) (discussing the limits of existing tax salience scholarship).

<sup>256</sup> See Chetty, note 203, at 39-47.

<sup>257</sup> See Gamage & Shanske, note 6, at 27-31.

<sup>258</sup> See Gamage, note 255, at 174, 181-82.

ploying multiple tax instruments may thus be even stronger than my analysis suggests.<sup>259</sup>

### 5. *Political Economy Considerations*

Perhaps the most important respect in which this Article abstracts from key concerns of real world tax policy is by assuming away political economy considerations. In other words, this Article focuses on what governments should do, without fully evaluating what governments are likely to do.

It is a common approach in the public finance and tax policy literatures to abstract away from political economy considerations.<sup>260</sup> Nevertheless, for this Article's project, it is important to consider why governments do not simply reform their existing tax systems to prevent tax-gaming responses. For instance, why do governments not close all "loopholes" and ramp up enforcement so as to detect and deter most illegal tax evasion?

A standard technique in the optimal-tax-theory literature is to assume that it is not administratively feasible for governments to prevent taxpayers from engaging in labor-to leisure responses.<sup>261</sup> Similarly, it stands to reason that administrative practicality obstructs governments from preventing numerous other tax gaming responses, including the more idiosyncratic gaming techniques that are more likely to represent single-instrument responses.<sup>262</sup> "Income" is an inherently nebulous concept and modern income taxes are thus plagued by numerous line-drawing and valuation problems that lack easy resolutions.<sup>263</sup> Thus, just as governments find it administratively impracti-

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<sup>259</sup> Conversely, to the extent that Chetty's argument about the salience of penalties for tax evasion has first-order real world significance, the case for employing multiple tax instruments may be weaker than my analysis suggests. Based on the current state of the tax salience literature, it is difficult to predict how these potentially competing effects might balance out.

<sup>260</sup> See, e.g., Bankman & Weisbach, note 169, at 1414-15 (focusing on the idealized versions of income and consumption taxes while abstracting away from the political economy considerations).

<sup>261</sup> See Slemrod & Yitzhaki, note 121, at 1454-55 ("With some exceptions, optimal tax theory has dealt with the issue of administering a tax by making extreme assumptions about what kinds of taxes are available to the policymaker . . . . Extreme assumptions about the feasibility of tax instruments are analytically convenient, but incorrect. Ability can be measured, although with some expense and error. On the other hand, income cannot be measured perfectly, and the degree of accuracy in income measurement depends on the resources expended toward this goal.").

<sup>262</sup> Browsing any casebook on taxation reveals numerous tax-gaming transactions that governments do not prevent due to the limits of tax administration. See, e.g., Joseph Bankman, Daniel N. Shaviro & Kirk J. Stark, *Federal Income Taxation* 515-45 (16th ed. 2012) (discussing tax reduction strategies and the government's responses).

<sup>263</sup> See generally Weisbach, note 7.

cal to completely deter labor-to-leisure responses, it is also likely to be administratively impractical to completely deter many other tax-gaming responses.

Although many tax-gaming responses arise from the difficulties of administering tax systems in the modern world economy, other tax-gaming responses arise because governments purposefully write special provisions into tax laws in order to benefit interest groups.<sup>264</sup> For these forms of tax-gaming responses, then, even if a government could reduce the social welfare costs from the responses by levying multiple tax instruments, one might wonder whether governments in practice would just build the same special interest giveaways into any new, supplemental tax instruments levied.<sup>265</sup>

To the extent that a government would build the same special interest provisions into any tax instruments levied, or to the extent that a government would increase the magnitude of the special interest provisions in existing tax instruments in order to compensate those special interests for the use of supplementary tax instruments, there may be less potential to improve social welfare through the levying of multiple tax instruments. However, even when considering special interest provisions that governments purposefully write into their tax laws, it often may be that different tax instruments are more or less susceptible to different types of special interest provisions. For instance, governments frequently exempt food purchases from VATs and sales taxes, but governments do not similarly generally grant deductions or credits for food purchases within income taxes. What special interest provisions get written into tax legislation may thus depend significantly on the framing of different tax instruments—on what forms of special provisions strike political actors as acceptable within different tax instruments.<sup>266</sup>

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<sup>264</sup> See, e.g., IRC § 170(l).

<sup>265</sup> I thank Louis Kaplow for bringing this concern to my attention.

<sup>266</sup> For instance, because the U.S. income tax rules for capitalization, depreciation, and amortization involve numerous line-drawing problems, interest groups have been able to develop and maintain massive tax preferences within these rules. It seems unlikely that, if the United States were to wholly or partially replace its income tax with another tax system that would not need these sorts of rules, these interest groups would be able to lobby Congress to build equivalent special interest preferences into the new tax system. In other words, there is reason to think that the extent to which interest groups succeed in getting special interest provisions written into a tax instrument's base-calculation rules is to a large extent a function of the nature of those base-calculation rules.

Of course, this observation does not in and of itself allow for predicting how levying supplementary tax instruments might affect the overall social welfare costs from special interest tax provisions purposefully created by the government. Instead, I only mean to argue here that political economy considerations are complicated and context dependent, such that it is difficult to usefully generalize. This Article's framework is thus probably better tailored for analyzing tax-gaming distortions that result from the limits of tax administration than those that result from special interest provisions purposefully created by the

Overall, then, it is worth noting that this Article's conclusions about the potential benefits of governments levying multiple tax instruments may not fully hold in practice to the extent that governments might purposefully write the same special interest provisions into any tax instruments levied.<sup>267</sup> However, considering that a large portion of tax-gaming responses likely result from the limits of tax administration, this caveat should probably not dramatically undermine this Article's arguments as to the potential social welfare benefits of levying multiple tax instruments. As Ronald Pearlman explains: "Every tax system has Achilles' heels. . . . Moreover, in the real world, every tax system is vulnerable to tax avoidance and tax evasion, much of it unanticipated during the legislative process."<sup>268</sup> Similarly, as Joseph Bankman and Michael Schler explain: "Generally it is the specific statutory language that creates loopholes. The real test comes only after the drafting is complete . . . . The biggest dangers of a [tax reform] are the flaws not yet identified, or even existing until the specific statutory language is in place."<sup>269</sup> Accordingly, to think that most tax-gaming responses arise from special interest provisions purposefully created by the legislature is probably to misunderstand the nature of both tax administration and tax lawmaking.<sup>270</sup>

It is ultimately difficult to usefully generalize about the implications of political economy considerations, which is why the standard approach in the optimal tax theory literature is to abstract from these

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government. However, as discussed above, there is reason to infer that many (in my view, probably most) tax-gaming distortions arise more because of the limits of tax administration than because of special provisions purposefully created by the government.

<sup>267</sup> Yet I am skeptical that this caveat is likely to be a first-order consideration in many policy contexts, even with respect to special interest provisions purposeful created by the government. (But see note 266, recognizing that it is difficult to generalize). For instance, looking ahead to the next Section, imagine a government adjusting patent protections to promote marginal distribution while reducing the highest marginal income tax rates. Would the interest groups benefitting from special income tax provisions then be able to lobby for further special provisions based on the argument that shifting to using patent protections to promote marginal distribution resulted in a reduction in the magnitude of the special provisions that previously benefitted these interest groups? It seems rather unlikely to me that arguments of this sort could form the basis for successful lobbying. Of course, interest groups might lobby for different special provisions to be built into the patent protections, but then the tax-smoothing principle should potentially apply.

<sup>268</sup> Ronald A. Pearlman, *Fresh from the River Styx: The Achilles' Heels of Tax Reform Proposals*, 51 *Nat'l Tax J.* 569, 569 (1998).

<sup>269</sup> Joseph Bankman & Michael Schler, *Tax Planning Under the Flat Tax*, in *Taxing Capital Income* 247 (Henry J. Aaron, Leonard E. Burman & C. Eugene Steuerle eds., 2007).

<sup>270</sup> It is important to distinguish here between: (1) tax-gaming opportunities that the legislature purposefully creates at the time of initial tax lawmaking and (2) tax-gaming opportunities that taxpayers develop after initial tax lawmaking and that the legislature fails to shut down due to political pressures. It is typically much easier for special interest lobbying to prevent legislative reforms than to induce a legislature to purposefully write new special interest provisions.

considerations. Political economy considerations are undoubtedly important for analyzing real world tax policy. But, for the most part, the implications of these considerations probably must be evaluated on a case-by-case basis with respect to particular policy contexts.

*B. Applying the Framework to Analyze the Use of Legal Rules for Promoting Distributional Equity*

As the previous Section explained, the theoretical framework developed in Part II generally should be robust to relaxing its simplifying assumptions. To the extent that governments can obtain useful information about the implications of relaxing these assumptions, it may be necessary to adjust the policy prescriptions generated by the framework within particular policy contexts. But the prescriptions generated by this Article's framework should still be relevant for anyone interested in optimizing the trade-off between efficiency and distributional equity, at least as baselines.

This Article's framework is easiest to apply when evaluating incremental reforms, rather than fundamental reforms.<sup>271</sup> It is thus useful to start with the question of whether legal rules should be designed to promote distributional equity. For this question, it makes sense to hold the structure of the tax system constant, at least as an analytical starting point. Thus, we can ask whether it is optimal for a government to design a legal rule so as to promote a marginal amount of distributional equity, or whether the government instead should promote that distribution through the setting of income tax rates.

For instance, consider a government deciding how to set the duration of patent protections. Patent protections are primarily a regulatory instrument, in that the duration typically is set primarily for the purpose of balancing the goal of incentivizing research and discovery against the goal of not overly restricting use.<sup>272</sup> Yet the setting of the duration of patent protections may also have significant distributional implications, and thus may also function partially as a tax instrument.<sup>273</sup> Consequently, one can ask: Is it optimal to set the duration of patent protections at the level that most efficiently achieves the government's regulatory goals? Or, instead, is it optimal for the gov-

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<sup>271</sup> See notes 320-25 and accompanying text.

<sup>272</sup> See, e.g., Suzanne Scotchmer, *Innovation and Incentives* 98-99 (2004); Amy Kapczynski & Talha Syed, *The Continuum of Excludability and the Limits of Patents*, 122 *Yale L.J.* 1900, 1904 (2013).

<sup>273</sup> See, e.g., Angus C. Chu & Shin-Kun Peng, *International Intellectual Property Rights: Effects on Growth, Welfare and Income Inequality*, 33 *J. Macroeconomics* 276, 281-86 (2011); Amy Kapczynski, *The Cost of Price: Why and How To Get Beyond Intellectual Property Internalism*, 59 *UCLA L. Rev.* 970, 993-1006 (2012).

ernment to also consider distribution in setting the duration of patent protections?

Louis Kaplow and Steven Shavell have argued that (with limited exceptions) governments should set legal rules at the levels that most efficiently achieve the governments' regulatory goals.<sup>274</sup> In other words, Kaplow and Shavell argue that governments should not consider distribution in the design of legal rules. Their support for this position is an extension of the double-distortion argument against the use of luxury excise taxes (as discussed in Part II). Designing a legal rule to promote distributional equity by definition will create dead-weight loss to the extent that the rule departs from its efficiency-maximizing settings. Moreover, as Kaplow and Shavell explain, "if legal rules disadvantage high-income individuals and help low-income individuals, that will tend to discourage work effort in the same manner and to the same extent as making the income tax system more redistributive."<sup>275</sup> Therefore, Kaplow and Shavell argue that designing legal rules to promote distributional equity induces the double-distortion of both labor-to-leisure substitutions and of "the cost directly associated with the inefficiency of the legal rules"<sup>276</sup> They thus conclude that it is strictly superior to conduct distributional equity through the setting of tax rates,<sup>277</sup> because they assume that doing so would only induce labor-to-leisure distortions.

As applied to the setting of the duration of patent protections, then, Kaplow and Shavell's position implies that the government should set the duration at the level that most efficiently balances research and discovery against not overly restricting use. Departing from this setting in order to further distributional equity would generate dead-weight loss both by failing to maximize the government's regulatory goals and by inducing labor-to-leisure distortions.

The existing economics-oriented literature challenging Kaplow and Shavell's position has mostly focused on the implications of taxpayer

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<sup>274</sup> Louis Kaplow & Steven Shavell, *Why the Legal System Is Less Efficient Than the Income Tax in Redistributing Income*, 23 *J. Legal Stud.* 667, 677 (1994) (developing their argument for setting legal rules to efficiently achieve regulatory goals); Louis Kaplow & Steven Shavell, *Should Legal Rules Favor the Poor? Clarifying the Role of Legal Rules and the Income Tax in Redistributing Income*, 29 *J. Legal Stud.* 821, 834-35 (2000) [hereinafter *Clarifying*] (responding to the criticisms of their argument for setting legal rules to efficiently achieve regulatory goals).

This argument also applies to the use of tax-base calculation rules to promote distributional equity, as Kaplow's and Shavell's argument implies that distribution should be exclusively promoted through the setting of tax rates (again, with limited exceptions). See Weisbach, note 7, at 1676-79.

<sup>275</sup> See Kaplow & Shavell, *Clarifying*, note 274, at 823.

<sup>276</sup> *Id.* at 824.

<sup>277</sup> *Id.* at 826, 834.

heterogeneity and nonseparable preferences.<sup>278</sup> If legal rules can be designed to elicit meaningful information about ways in which taxpayers differ beyond in their ability to earn income, then Kaplow and Shavell would agree that legal rules should be designed so as to take advantage of this information to promote distributional equity.<sup>279</sup> Yet Kaplow and Shavell argue that although “it is possible that certain adjustments to legal rules would enhance the efficiency of the income tax in redistributing income. . . . there is no *priori* reason to expect the called-for modifications of legal rules to be pro-poor—the adjustments could just as easily be pro-rich.”<sup>280</sup>

Other scholars have, of course, made a variety of nonwelfarist arguments against Kaplow and Shavell’s position.<sup>281</sup> Also, within a welfarist framework, Christine Jolls has questioned on salience grounds whether promoting distributional equity through legal rules really induces the same labor-to-leisure distortions as doing so through a labor income tax.<sup>282</sup> Nevertheless, Kaplow and Shavell’s position “has become the new conventional wisdom,”<sup>283</sup> at least among law and economics scholars.

In contrast to this conventional wisdom—and even factoring out nonwelfarist considerations, taxpayer heterogeneity, nonseparable preferences, and salience effects—this Article’s framework suggests that at least some legal rules should be designed to promote distributional equity. Much of the tax-gaming responsiveness through which taxpayers reduce their tax liabilities almost certainly operates as single-instrument distortions with respect to designing legal rules to promote distributional equity, just as with respect to luxury excise

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<sup>278</sup> E.g., Ronen Avraham, David Fortus & Kyle Logue, *Revisiting the Roles of Legal Rules and Tax Rules in Income Redistribution: A Response to Kaplow & Shavell*, 89 *Iowa L. Rev.* 1125, 1152 (2004); Chris William Sanchirico, *Exchange: Should Legal Rules be Used to Redistribute Wealth?*, *Taxes Versus Legal Rules as Instruments for Equity: A More Equitable View*, 29 *J. Legal Stud.* 797, 814-19 (2000); see Subsection III.A.1.

<sup>279</sup> See Kaplow & Shavell, *Clarifying*, note 274, at 825-26.

<sup>280</sup> *Id.* For further discussion of this topic and of Sanchirico’s critique of Kaplow and Shavell, see Subsection III.A.1; see also Zachary Liscow, *Note, Reducing Inequality on the Cheap: When Legal Rule Design Should Incorporate Equity as Well as Efficiency*, 123 *Yale L.J.* 2478, 2509-510 (2014) (arguing that there are situations in which both equity and efficiency may favor redistribution through legal rules rather than taxes).

<sup>281</sup> For discussion, see, e.g., Richard S. Markovits, *Why Kaplow and Shavell’s “Double-Distortion Argument” Articles Are Wrong*, 13 *Geo. Mason. L. Rev.* 511, 613-19 (2005).

<sup>282</sup> Christine Jolls, *Behavioral Economics Analysis of Redistributive Legal Rules*, 51 *Vand. L. Rev.* 1653, 1676-77 (1998). Logue and Avraham have also argued that there may be limited circumstances in which taxpayer heterogeneity or salience effects may justify designing legal rules to promote distributional equity, although they conclude that the tax system probably has a “comparative advantage” at promoting most forms of distribution. Logue & Avraham, note 228, at 165-206.

<sup>283</sup> See Avraham et al., note 278, at 1126.

taxes.<sup>284</sup> For instance, adjusting the duration of patent protections so as to promote distributional equity should not directly incentivize taxpayers to conceal their incomes from the tax authority or to engage in many other forms of tax-gaming responses that rely on exploiting the idiosyncratic design of the tax system's base-calculation rules. Adjusting patent protections to benefit poorer taxpayers at the expense of richer taxpayers may well reduce work incentives, but should not directly incentivize the claiming of artificial or inflated deductions or exclusions or many other forms of tax gaming such as those that were previously discussed in Subsection II.C.1.<sup>285</sup>

Consequently, designing legal rules so as to promote marginal amounts of distributional equity, rather than relying exclusively on the setting of tax rates, should reduce the overall magnitude of distortionary costs.<sup>286</sup> To the extent that the responsiveness to the tax system consists of single-instrument distortions as compared to designing a legal rule to promote distributional equity, calibrating that legal rule to promote at least some amount of distributional equity should be relatively more efficient in terms of distortionary costs.

What about overhead costs? Remember that many legal rules are adopted primarily for regulatory purposes, not distributional purposes. Thus, the government will need to establish these legal rules regardless of whether the rules are designed purely based on efficiency or whether the rules are calibrated so as to promote distributional equity. Even if these rules are not used to promote distributional equity, then, the government will need to incur adminis-

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<sup>284</sup> As long as a legal rule does not directly make use of taxpayers' reported taxable incomes, many of the tax-gaming techniques through which taxpayers reduce their income tax liabilities should constitute single-instrument distortions with respect to using the legal rule to promote distributional equity. For instance, consider designing legal rules to favor workers over executives, to favor the residents of poorer communities over the residents of wealthier communities, or to favor historically disadvantaged minorities over advantaged majorities. None of these rules should directly affect taxpayers' incentives to conceal earned income from the tax authority or to engage in many other common tax gaming transactions. In contrast, consider a proposal to adjust tort remedies or civil fines so that taxpayers who report higher incomes to the tax authority are subject to higher sanctions. With respect to this proposal, much of the tax-gaming responsiveness to the income tax might plausibly constitute multi-instrument distortions. Conditioning sanctions on reported taxable income could directly increase taxpayers' incentives to engage in tax gaming to reduce their reported taxable incomes. Yet most proposals for promoting distribution through legal rules do not depend on taxpayers' reported taxable incomes in this fashion.

<sup>285</sup> Moreover, the secondary effects of adjusting legal rules to promote distributional equity probably should serve to decrease taxpayers' incentives to engage in many forms of tax gaming responses for reducing income tax liabilities, insofar as doing so would decrease the purchasing power of money. See notes 157–60 and accompanying text.

<sup>286</sup> In light of the tax-smoothing principle, the question must be whether adjusting the tax system or the design of legal rules is relatively more efficient at promoting marginal amounts of distribution.

trative costs to enforce these rules and private parties will need to incur compliance costs. The reason why we might expect the use of multiple tax instruments to increase overhead costs thus does not apply to the question of whether legal rules (that are established for regulatory purposes) should be adjusted so as to promote marginal amounts of distributional equity.<sup>287</sup> Any fixed costs associated with establishing these legal rules will need to be incurred in order to promote the government's regulatory goals, regardless of whether or not the rules are calibrated to promote distributional equity.

For example, imagine that the empirical literature reports that the efficiency-maximizing setting for a form of patent protection is to set the duration of the patent at ten years. Further imagine that the empirical literature reports that reducing the duration of that patent protection would promote distributional equity. Would reducing the duration of the patent protection to nine years increase overhead costs, as compared to setting the duration at the efficiency-maximizing setting of ten years? Perhaps so, but it seems equally likely that reducing the duration of the patent protection would decrease overall overhead costs.

Examining the four key sets of empirical parameters for applying this Article's framework, there is thus no particular reason to infer that either relying on the tax system or on the design of legal rules to promote marginal amounts of distributional equity should generate larger marginal overhead costs.<sup>288</sup> Instead, the relevance of overhead costs must be evaluated on a case-by-case basis with respect to the questions of whether specific legal rules should be adjusted to promote distributional equity. For many such questions, marginal overhead costs may not be a first-order concern.

The same conclusion probably also holds for instrument-shifting distortions. When comparing tax instruments such as labor income taxes, capital income taxes, and corporate income taxes, there is evidence that instrument-shifting distortions have first-order implications for the extent to which these tax instruments should be used.<sup>289</sup> But I am not aware of any similar evidence or other reasons for inferring that instrument-shifting distortions are likely to have first-order implications for the question of whether legal rules should be designed to promote distributional equity, as compared to relying on tax rates.

For simplicity, then, assume (as seems plausible) that neither overhead costs nor instrument-shifting distortions present first-order con-

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<sup>287</sup> See Subsection II.B.4.

<sup>288</sup> For the remainder of this Section, I limit my discussion to legal rules that are primarily designed for regulatory purposes and that the government will thus establish regardless of whether the legal rules are used to promote distributional equity.

<sup>289</sup> See Saez et al., note 17, at 10-13.

cerns for the question of whether a government should consider distribution in the design of legal rules.<sup>290</sup> With respect to considering whether a particular legal rule should be designed to promote distributional equity, this Article's framework thus boils down to two questions:<sup>291</sup>

First, what are the marginal single-instrument distortions for adjusting tax rates and for adjusting the setting of the legal rule?

Second, what is the distributional impact (or incidence) of adjusting tax rates and of adjusting the setting of the legal rule?

In combination, these two questions evaluate the relative marginal efficiency costs of promoting distributional equity, either through the setting of income tax rates or through adjusting the setting of the legal rule.<sup>292</sup>

By definition, the optimal government policy is that which maximizes the trade-off between distributional equity and efficiency by promoting distributional equity at the lowest possible efficiency costs.<sup>293</sup> The tax system can be used to promote marginal amounts of distributional equity by adjusting the tax rates so as to raise incremental revenues from higher-income taxpayers and then transferring those revenues to lower-income taxpayers. Legal rules similarly can be used to promote distributional equity by adjusting the setting of the legal rules so as to benefit lower-income taxpayers at the expense of higher-income taxpayers. For each of these tax instruments, the marginal efficiency costs of promoting distributional equity can be expected to rise exponentially with the amount of distributional equity promoted.<sup>294</sup> Consequently, the optimal government policy is to adjust the use of each tax instrument until the marginal efficiency costs of promoting further distributional equity are equal for all of the tax instruments levied.

In their review of the empirical literature on taxpayer responsiveness, the economists Emmanuel Saez, Joel Slemrod, and Seth Giertz

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<sup>290</sup> In contexts in which there is evidence that these factors push in one direction or the other, the baseline prescriptions discussed in this Section should be modified to account for this evidence.

<sup>291</sup> The other two questions elaborated in Subsection II.C.3. can be factored out based on the assumptions that neither marginal overhead costs nor instrument-shifting distortions are first-order concerns.

<sup>292</sup> The marginal efficiency costs of promoting distribution is an expression for the MCPF, when the goal is to promote distributional equity, rather than to raise revenue. The overall MCPF of each tax instrument is thus partly a function of the government's use of other tax instruments. As this Article's framework demonstrates, the relative MCPF (or the relative marginal efficiency costs of promoting distribution) of each tax instrument depends on the elasticities of single-instrument distortions for each of the tax instruments to be evaluated as compared to the other tax instruments to be evaluated.

<sup>293</sup> See notes 25–26 and accompanying text.

<sup>294</sup> See notes 83–94, 161, and accompanying text.

estimate that the overall marginal distortionary costs of raising revenues through the U.S. income tax are around 20% of the marginal dollar of revenue raised through an across-the-board tax increase.<sup>295</sup> They further estimate that the overall marginal distortionary costs of raising revenues from the top 1% of income earners are around 34% of the marginal dollar of revenues raised from these taxpayers.<sup>296</sup>

What portion of these estimates might arise from single-instrument distortions when comparing the use of the income tax for promoting distribution to instead promoting that distribution through the design of legal rules? Based on discussion of several important real-world examples of tax gaming responses and on assessment of the empirical economics literature, I earlier suggested that a best educated guess might be that perhaps 50% of the distortionary responses to the income tax might constitute single-instrument responses when comparing the U.S. income tax to excise taxes.<sup>297</sup> This inference should also be reasonable as a best educated guess for comparing promoting a marginal amount of distribution through the U.S. income tax to instead promoting that distribution through the design of legal rules. After all, Kaplow and Shavell's argument against promoting distribution through legal rules is based on an extension of the double-distortion argument against the use of luxury excise taxes.<sup>298</sup>

I offer this "best educated guess" only to suggest that 50% seems like a more reasonable estimate based on the limited anecdotal evidence we have available than does either close to 0% or close to a 100%. Certainly, a wide range of other possibilities between (say perhaps) ten percent and ninety percent might also be plausible. Ultimately, all that can be said with even minimal confidence is that there is reason to infer that at least a significant portion of the responsiveness to the income tax probably consists of single-instrument distortions, and also that at least a significant portion probably consists of multi-instrument distortions. Accordingly, we lack evidence as to whether the better estimate would be above or below my best guess of 50%.

With that giant caveat, I will proceed to use 50% as my very *very* rough, best-educated guess estimate for what portion of the measured responsiveness to the U.S. income tax might constitute single-instrument responses when comparing promoting distribution through the income tax to alternatively promoting distribution through the design

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<sup>295</sup> Saez et al., note 17, at 42 (estimating that "the marginal excess burden per dollar of federal income tax revenue raised is \$0.195 for an across-the-board proportional increase, and \$ 0.339 for a tax increase focused on the top 1 percent of income earners").

<sup>296</sup> *Id.*

<sup>297</sup> Subsection II.C.1.

<sup>298</sup> See notes 257–59.

of legal rules. The next step is to combine that best guess estimate with the economists' measures for the overall marginal distortionary costs of raising revenues through the U.S. income tax (as discussed above): 20% of the marginal dollar for an across-the-board tax increase, and 34% of the marginal dollar for raising revenues from the top 1% of income earners.<sup>299</sup>

One can thus very *very* roughly approximate the optimal extent to which legal rules should be used to promote distributional equity. Imagine a legal rule that can be adjusted to benefit the lowest-income taxpayers at the expense of middle-income taxpayers. We might estimate that this legal rule should be adjusted to promote incremental distributional equity until the relative marginal efficiency costs of promoting further distributional equity exceed 10% of the marginal dollar-equivalent of resources transferred (that is, 50% of the economists' 20% measurement). Similarly, for a legal rule that can be adjusted to benefit the lowest-income taxpayers at the expense of the top 1% of income earners, we might estimate that the legal rule should be adjusted to promote incremental distributional equity until the relative marginal efficiency costs of promoting further distributional equity exceed 17% percent of the marginal dollar-equivalent of resources transferred (that is, 50% of the economists' 34% measurement). More generally, we can say that it should be optimal to adjust legal rules so as to promote incremental distributional equity until the relative marginal efficiency costs of promoting further distributional equity grow to equal the relative marginal efficiency costs of instead promoting that distribution through the tax system.<sup>300</sup>

This result is offered only as a baseline. There are numerous complications that might suggest adjusting this baseline prescription in particular policy contexts.<sup>301</sup> For instance, nonwelfarist considerations might imply that certain legal rules should be adjusted so as to depart in some direction or another from the baseline prescriptions generated by this Article's framework.<sup>302</sup> Similarly, institutional considerations related to the proper scope of the relevant decisionmaker's discretion might suggest departing from the baselines prescriptions generated by this framework in certain policy contexts.<sup>303</sup> Also, it

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<sup>299</sup> See notes 295–96.

<sup>300</sup> In other words, it should be optimal to adjust legal rules so as to promote incremental distribution until the marginal single-instrument distortions that would be induced by doing so grow to equal the marginal single-instrument distortions that would be induced by instead promoting that distribution through the tax system.

<sup>301</sup> See Section III.A.

<sup>302</sup> As previously indicated, this Article does not evaluate nonwelfarist considerations. See note 74 and accompanying text.

<sup>303</sup> For instance, if a judge or administrative agency is adjusting a legal rule, one might argue that the judge or agency should look to the tax system as a guide for the implicit

might in some cases be worth considering whether attempting to reform the structure of the tax system so as to reduce tax gaming distortions might be a superior alternative to designing legal rules in light of the porousness of the existing tax system.<sup>304</sup> Nevertheless, the capability to even roughly approximate the optimal extent to which specific legal rules should be used to promote distributional equity, even as a baseline, should begin to suggest the advantages of this Article's framework as compared the approaches in the prior literature.

Moreover, there are numerous line-drawing problems in the design of legal rules for which it is unclear which of multiple possible discrete settings for the rules would be most efficient. Applying this Article's framework suggests that it may be optimal to resolve these line-drawing problems by considering distributional implications, at least for those problems where the choice amongst possible settings for the legal rules has significant and predictable distributional implications and unclear or insignificant efficiency implications.

In a sense, when the quantitative empirical information needed to make more precise prescriptions is unavailable, this Article's framework suggests that we should return to the traditional tax policy approach of attempting to balance the potentially competing goals of equity, efficiency, and administrability.<sup>305</sup> In these settings, the key implication of this Article's framework is that equity—especially distributional equity<sup>306</sup>—should indeed be a goal in the design of legal

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social welfare function underlying congressional decisions regarding the trade-off among distribution and efficiency. To the extent so, this might suggest that the legal rule should be set so that the relative marginal efficiency cost of promoting distribution through the rule equals that of the tax system—as this Article's framework prescribes. But there may be other institutional concerns suggesting that the judge or agency should take a different approach to balancing distribution against efficiency, such as if Congress has provided explicit instructions that the distributional calculus should be based on something other than the social welfare function implied by the design of the tax system.

<sup>304</sup> But note that, in most policy contexts, reforming the structure of the existing tax system is likely to be more of a complement (rather than substitute) to designing legal rules to promote marginal amounts of distribution. The more that the tax system can be reformed so as to reduce its porousness, the smaller the advantages there are likely to be to designing legal rules to promote marginal amounts of distribution. But, under the plausible assumption that no conceivable amount of reform could completely eliminate all single-instrument distortions induced by the tax system, it should probably remain optimal to design at least some legal rules to promote marginal amounts of distribution.

<sup>305</sup> For discussion, see, e.g., Gov't Accountability Office, GAO-05-1009SP, *Understanding the Tax Reform Debate: Background, Criteria & Questions* 26-53 (2005), available at <http://www.gao.gov/new.items/d051009sp.pdf>.

<sup>306</sup> Within the traditional tax policy approach, "equity" typically was thought to include both horizontal equity (treating similarly situated taxpayers similarly) and vertical equity (that is, distributional equity). Some modern scholarship has argued against horizontal equity being a separate criterion, which effectively collapses equity to just being distributional equity. For further discussion, see, e.g., Matthew D. Adler & Chris William Sanchirico, *Inequality and Uncertainty: Theory and Legal Applications*, 155 U. Pa. L. Rev. 279,

rules, contrary to the implications of double-distortion arguments. In some policy contexts, the empirical literature may facilitate making precise quantitative estimates of the optimal extent to which specific legal rules should be calibrated to promote distributional equity. But even in contexts where this is not currently possible, it may be that lawyerly training enables a balancing of nonquantifiable concerns—in light of the empirical information that is available and inductive inferences about the plausible settings of the other key empirical parameters—based on the exercise of lawyerly “practical wisdom”.<sup>307</sup>

Nevertheless, the conclusion that it is probably optimal to adjust some legal rules so as to promote marginal amounts of distributional equity does not imply that all legal rules defended as promoting distributional equity are justified. Some proposals for how legal rules might be adjusted to promote distributional equity may be dominated by alternative proposals that better optimize the trade-off between distributional equity and efficiency.<sup>308</sup> There are undoubtedly better and worse ways to design legal rules so as to promote marginal amounts of distributional equity, and nothing in this Section’s analysis supports using legal rules to promote distributional equity in ways that are dominated by superior alternative approaches. In more colloquial terms, this Section’s analysis only supports designing legal rules to promote distributional equity in “smart” ways; “stupid” ways of promoting distributional equity remain “stupid.”

Moreover, Louis Kaplow has argued that an advantage of the double-distortion argument that all distributional equity should be promoted through the tax system is that this approach facilitates a productive division of labor between tax and other legal scholars.<sup>309</sup> Determining the efficiency-maximizing setting of the duration of patent protections and of other legal rules is a difficult task in its own right. The analyst’s task is made even more difficult by prescribing

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362 (2006); Thomas D. Griffith, *Should “Tax Norms” Be Abandoned? Rethinking Tax Policy Analysis and the Taxation of Personal Injury Recoveries*, 1993 *Wis. L. Rev.* 1115, 1155 (1993). But see Brian Galle, *Tax Fairness*, 65 *Wash. & Lee L. Rev.* 1323, 1324 (2008) (arguing for a “new” justification for horizontal equity).

<sup>307</sup> See, e.g., Anthony T. Kronman, *The Lost Lawyer: Failing Ideals of the Legal Profession* 109-62 (1993) (advocating for the notion of lawyerly “practical wisdom”). But note that a danger of relying on “practical wisdom” is that analysts may be influenced by “motivated reasoning.” See, e.g., Dan M. Kahan, *Foreword: Neutral Principles, Motivated Cognition, and Some Problems for Constitutional Law*, 125 *Harv. L. Rev.* 1, 19-28 (2011) (discussing the problem of motivated reasoning). For a related discussion, see Cass R. Sunstein, *The Limits of Quantification* (Harvard Law School, Pub. Law Working Paper No. 14-13, 2014), available at <http://ssrn.com/abstract=2424878>.

<sup>308</sup> In terms of distortionary costs, an approach for promoting distribution dominates another alternative approach if and only if the first approach does not generate any single-instrument responses or instrument-shifting responses with respect to the second approach.

<sup>309</sup> See Kaplow, note 16, at 3-4.

that legal rules should depart from their efficiency-maximizing settings so as to promote incremental distributional equity up to the point where the marginal efficiency costs of doing so equal the costs of instead promoting that distributional equity through the tax system.

In light of tax-gaming responses and the tax-smoothing principle, however, economic theory provides no justification for prioritizing efficiency over distributional equity. Were governments to prioritize efficiency maximization over distributional equity, all revenues should be raised through lump sum taxes. That governments instead rely on less efficient alternatives like income and consumption taxes is generally thought to imply that governments prioritize distributional equity over pure efficiency maximization. If this is so for tax-system design, then should it not also be so for the design of legal rules?<sup>310</sup>

Certainly, not all legal rules are capable of being adjusted to promote significant amounts of distributional equity. And, many (perhaps most) other legal rules might be so inefficient at promoting distributional equity so as to make it not worth analysts' time and effort to determine how to adjust these legal rules. Also, it is important to remember that, for many other legal rules, adjusting the rules to promote distributional equity might be dominated by superior alternative approaches for promoting distributional equity through the design of different legal rules. Nevertheless, the literature suggests that at least some legal rules might be designed to promote significant amounts of distributional equity.<sup>311</sup> Given that governments are al-

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<sup>310</sup> For further argument related to this point, see Hendren, note 98, at 46-47 (arguing for a new method of resolving the equity v. efficiency trade-off with respect to redistribution).

<sup>311</sup> For example, a sizeable literature on environmental regulation has argued that strengthening certain environmental protections can significantly promote distributional equity. See, e.g., Nick Johnstone & Ysé Serret, Introduction, in *The Distributional Effects of Environmental Policy 1-2* (Ysé Serret & Nick Johnstone eds., 2006) ("what is clear is that environmental policies have the potential to raise significant distributional concerns"); Michael A. Livermore & Jennifer S. Rosenberg, *The Shape of Distributional Analysis*, in *The Globalization of Cost-Benefit Analysis in Environmental Policy* 69-84 (Michael A. Livermore & Richard L. Revesz eds., 2013); see also, e.g., Logue & Avraham, note 228, at 181 ("[I]t is wrong to assert that redistribution through contract-based legal rules is impossible or infeasible."). Further, note that tax-base-calculation rules are a form of legal rule that might be adjusted so as to promote distributional equity. Double-distortion arguments imply that tax-base-calculation rules should be designed solely based on efficiency, leaving distributional concerns to the setting of tax rates. See note 274. But this Article's analysis implies that distribution should be a factor in determining the setting of at least some tax-base-calculation rules, which (for instance) potentially supports strengthening anti-abuse rules targeting high-income taxpayers and loosening anti-abuse rules that primarily affect low-income taxpayers.

Ultimately, the task of measuring the distributional impact (or incidence) of policy reforms can be difficult both when analyzing legal rules and when analyzing tax policies. See Don Fullerton & Gilbert Metcalf, *Tax Incidence*, in *4 Handbook of Public Economics* 1787-872 (Alan J. Auerbach & Martin Feldstein eds., 2002). One of the most elementary

ready incurring the fixed overhead costs needed to establish many of these legal rules in order to achieve the rules' regulatory purposes, why should governments not also take advantage of these legal rules so as to better optimize the trade-off between efficiency and distributional equity?<sup>312</sup>

Based on the dominant double-distortion approach, the prior literature often estimates the efficiency costs of promoting distribution by modeling the responsiveness to the income tax as though it entirely consists of labor-to-leisure distortions or similar tax-reduction techniques that are assumed to operate as multi-instrument distortions with respect to all potential tax instruments.<sup>313</sup> This Article's framework demonstrates the importance of instead evaluating the extent to which this responsiveness might operate as single-instrument distortions with respect to possible supplementary tax instruments, and then analyzing that responsiveness in light of the tax-smoothing principle. Through this analysis, this Article's framework reveals that governments may have greater capacity to raise revenues and to promote distributional equity at lower efficiency costs than sometimes is recog-

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lessons of public finance economics is that the economic incidence (or distributional impact) of tax policies may differ from the statutory incidence, and there are vigorous debates about the distributional incidence of, for instance, property taxes and corporate income taxes. *Id.* at 1789. Nevertheless, that measuring distributional incidence is often difficult does not make it any less important to do so. There is a vast literature through which economists have refined techniques for measuring distributional incidence, and this literature can readily be applied to measure the distributional incidence of legal rules as well as for tax policies—indeed, there are numerous studies in the prior literature that have already analyzed the distributional incidence of a variety of different legal rules and regulations. See, e.g., Dallaw Burtraw, Richard Sweeney & Margaret Walls, *The Incidence of U.S. Climate Policy: Alternative Uses of Revenues from a Cap-and-Trade Auction*, 62 *Nat'l Tax. J.* 497 (2009); Ron Cheung, Keith Ihlanfeldt & Tom Maycock, *The Incidence of Land Use Regulatory Tax*, 37 *Real Estate Economics* 675 (2009); Paul L. Joskow & Nancy L. Rose, *The Effects of Economic Regulation*, in 2 *Handbook of Industrial Organization* 1450-506 (Richard Schmalensee & Robert Willig eds., 1989); Johnstone & Serret, *supra*.

<sup>312</sup> Note that this conclusion potentially also extends to a number of other important tax policy debates. For example, it is often argued in the literature on corporate tax integration that a corporate-level withholding tax is needed to prevent high-income taxpayers from sheltering their income within the corporate form, but that this corporate-level withholding tax should be integrated with the individual-level income tax so as to completely eliminate the double taxation of capital invested in the corporate form. See, e.g., Mark P. Keightley & Molly F. Sherlock, Cong. Research Serv., R42726, *The Corporate Income Tax System: Overview and Options for Reform 25* (2014), available at <http://fas.org/sgp/crs/misc/R42726.pdf>. But, extending the logic above, once a government incurs the overhead costs associated with levying a corporate-level withholding tax, shouldn't the government also further adjust that corporate-level tax in order to promote at least some incremental amount of distributional equity?

<sup>313</sup> More precisely, the prior literature sometimes notes the implications of instrument-shifting distortions, but typically does not consider the possibility of single-instrument distortions. For an example of this in the prior literature, see Gov't Accountability Office, note 305, at 40.

nized. We should not leave this potential “money on the table” merely to simplify the scholarly division of labor.<sup>314</sup>

#### IV. CONCLUSION

To conclude, it is worth emphasizing that nothing in this Article should be viewed as attacking double-distortion models. Quite the contrary, this Article builds on and generalizes the double-distortion framework. Double-distortion models analyze “idealized” versions of tax systems—such as by assuming that labor-to-leisure distortions are the sole technique taxpayers can use to reduce their labor income tax liabilities.<sup>315</sup> Many scholars advocating double-distortion arguments recognize the importance of incorporating what they sometimes label

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<sup>314</sup> Moreover, this Article’s framework does suggest a productive division of labor among tax and other legal scholars. Tax scholars can study the nature of the porousness of the tax system and can present to other legal scholars estimates for the relative marginal efficiency costs of promoting various forms of distribution through the tax system. Note that the relative marginal efficiency cost of promoting a form of distribution depends both on whom the resources are transferred from and to whom the resources are transferred. Legal scholars can then study the optimal design of legal rules to determine the settings for these rules that promote distributional equity to the point where the relative marginal efficiency costs of doing so equals that of the tax system. Granted, the legal analyst’s task is more difficult under this Article’s framework than under the double-distortion approach. But ease of analysis should not be the primary consideration in making policy prescriptions. Scholarship should at least explore the possibility of promoting distributional equity through calibrating the design of patent protections and of other legal rules that may have substantial capacity to promote distributional equity.

I might expect that the legal rules that are most likely to have substantial capacity to promote distributional equity are those that affect the macro structure of the economy (such as intellectual property rules, financial regulation rules, antitrust rules, land use rules, and the like). In contrast, I might expect that legal rules that primarily mediate interactions amongst small numbers of individuals may be less likely to have substantial capacity to promote distributional equity (such as most contract law rules). But analysts who specialize in these various legal regimes should be better suited than I am to evaluating the extent to which any of these legal rules might actually be capable of being calibrated so as to substantially promote distributional equity.

On a different note, the “money on the table” expression above is meant in the proverbial sense.

<sup>315</sup> See, e.g., Bankman & Weisbach, note 169, at 1414-15 (“We will generally compare only the ideal forms of income and consumption taxation. The actual choice of a tax system has to be based on how the system would be implemented, focusing on administrative and compliance costs.”).

Note that I use the term “idealized” here, rather than the term “ideal,” so as to indicate that I am referring to how analysts choose to model abstract versions of tax systems. That analysts choose to conceive of tax systems in certain ways for purposes of abstract policy modeling does not imply that these idealized conceptions necessarily represent the Platonic forms of real world tax systems (or any other nonsubjective notions of ideal forms of real world tax systems). In other words, there are many different ways in which analysts might conceive of the idealized versions of tax systems, and none of these idealizations are necessarily correct or incorrect. Rather, the question should be what lessons can be learned from different idealizations.

as “administrative” or “implementation” concerns into the analysis.<sup>316</sup> Yet there are at least two reasons why these scholars have nevertheless based their analyses on idealized versions of tax systems. The first is that, as Joel Slemrod explains, due to methodological limitations, “traditionally, economists have focused on the behavioral responses of labor supply, saving, and investment—sometimes called ‘real responses’”;<sup>317</sup> only in recent years have economists started to incorporate a wider variety of tax-reduction techniques into core optimal-tax models,<sup>318</sup> and this recent work has simply not yet been fully integrated into the double-distortion framework.<sup>319</sup> The second reason is that tax-reduction techniques that are more contingent on the details of the tax system can potentially be thwarted by improving the design of the tax system.<sup>320</sup> The advantage of analyzing idealized versions of tax systems, then, is that the lessons learned potentially can be applied more generally rather than being dependent on how tax systems are implemented.<sup>321</sup>

This Article’s framework is thus easiest to apply when analyzing incremental reforms to existing tax systems (such as when calibrating legal rules to promote marginal amounts of distributional equity, while holding the structure of the tax system constant). When analyzing incremental reforms, it is typically more useful to evaluate the implications of how taxpayers respond to the existing tax system, rather than how taxpayers might respond to an idealized tax system. Certainly, it is important to consider the possibility of improving the existing income tax as a potential alternative (or complement) to designing other policy instruments so as to make up for the flaws of

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<sup>316</sup> See, e.g., Bankman & Weisbach, note 169, at 1414-15; Kaplow, note 16, at 90-94.

<sup>317</sup> Joel Slemrod, *The Consequences of Taxation*, Social Philosophy and Pol’y, Summer 2006, at 73, 73 (2006).

<sup>318</sup> *Id.*

<sup>319</sup> In particular, to my knowledge, this Article is the first to generalize the double-distortion framework to incorporate the insights from the taxpayer-responsiveness literature—as discussed in Chetty, note 23, at 467-73; Gamage, note 13, at 19-24.

<sup>320</sup> But note that all tax-reduction techniques are somewhat contingent on the details of the tax system—including labor-to-leisure distortions. Taxpayers’ proclivity to engage in labor-to-leisure distortions (for example) depends on the government’s financing and regulation of both work and leisure opportunities, on social norms that might partially be influenced by tax policy decisions, and on numerous other factors that might be influenced by government policy choices. Certainly, some tax-reduction responses are likely to be more contingent on government policy choices than are others, and labor-to-leisure distortions are likely to be less contingent than are many tax avoidance and evasion responses. But all taxpayer responses are at least somewhat contingent.

<sup>321</sup> Conversely, the disadvantage of analyzing idealized versions of tax systems is that the lessons learned may have limited applicability to any real world tax policy problems. There is thus a tension between designing a model to yield generalizable insights and designing a model to yield relevantly applicable insights. The former goal is often facilitated by greater abstraction and the latter goal by lesser abstraction.

the existing income tax.<sup>322</sup> But when evaluating incremental reforms, analyzing the existing tax system should usually be a better starting point than analyzing an idealized version.

It is more difficult to meaningfully analyze proposals for fundamental tax reforms. To repeat a quote from Bankman and Schler: “The biggest dangers of a [fundamental tax reform] are the flaws not yet identified, or even existing until the specific statutory language is in place.”<sup>323</sup> Thus, although we can conclude with reasonable confidence that any conceivable real world tax system will be subject to considerable gaming, it is difficult to predict the nature and magnitude of possible tax gaming responses when evaluating hypothetical tax systems that exist only in the minds of reform advocates. Nevertheless, there is potential insight to be gained about fundamental tax reform proposals by triangulating between considering how taxpayers might respond to idealized versions of tax systems and considering how taxpayers actually respond to the closest real world equivalents of these tax systems.<sup>324</sup>

Double-distortion models operate at a high level of abstraction, by analyzing highly “idealized” tax systems. This Article’s framework is aimed at more of a medium level of abstraction.<sup>325</sup> Although it is more difficult to analyze how tax gaming responses might operate with respect to fundamental tax reform proposals than with respect to incremental reforms, it is still crucial to evaluate the implications of tax gaming.<sup>326</sup> In particular, this Article has argued for the importance of evaluating the implications of tax gaming responses through a framework informed by the tax-smoothing principle. The forthcoming companion article discusses further how this Article’s framework can be used to analyze proposals for fundamental tax reforms.

Critics of abstract policy models sometimes invoke the fable of the drunk who lost his keys in the bushes and yet searches for them under

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<sup>322</sup> But see note 304 (arguing that there is a limit to the degree to which the existing income tax system can be improved).

<sup>323</sup> Bankman & Schler, note 269, at 247.

<sup>324</sup> Any one model or framework can only offer a partial understanding of the allegorical “elephant” of real world policy problems. See, e.g., John Godfrey Saxe, *The Blind Men and the Elephant*, in *The Poems of John Godfrey Saxe* 135, 135-36 (1873). By integrating the insights offered by different modeling approaches, an academic literature potentially can evolve to offer greater insight than can be generated by any one model. See Chetty, note 22, at 454 (“The structural and sufficient-statistics approaches to welfare analysis should be viewed as complements rather than substitutes because each approach has certain advantages.”).

<sup>325</sup> Not coincidentally, as compared to economists, academic lawyers probably have a comparative advantage at analyzing policy problems at more medium levels of abstraction.

<sup>326</sup> Slemrod & Yitzhaki, note 121, at 1427 (“[W]e believe that consideration of evasion, avoidance, and administration is essential to the positive and normative analysis of taxation.”).

the street lamp, “because that is where the light is.”<sup>327</sup> Abstract policy modeling has great potential to yield powerful insights.<sup>328</sup> But, as the fable implies, if the keys were lost in the bushes, there is only so much relevant insight that can be gained by searching under the street-lamp.<sup>329</sup> The empirical literature suggests that much of the responsiveness to real world tax systems takes the form of gaming, rather than labor-to-leisure or saving-to-spending distortions.<sup>330</sup> There is thus great need to analyze the implications of tax gaming. By employing a sufficient-statistics methodology, this Article’s framework sacrifices some amount of precision in order to meaningfully analyze aggregate categories of gaming responses.<sup>331</sup> In the terms of the fable, if the light from the streetlamp does not reach to where the keys were lost, it may be that the best we can do is to use a flashlight. Although a flashlight may be less illuminating than a streetlamp, a flashlight can at least be aimed at the area we need to search, and using a flashlight should often be better than searching in the dark.

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<sup>327</sup> E.g., Russell Korobkin, *What Comes After Victory for Behavioral Law and Economics?*, 2011 U. Ill. L. Rev. 1653, 1655 (2011).

<sup>328</sup> For a discussion of modeling tax policy problems, see generally Lawsky, note 176.

<sup>329</sup> See *id.* at 1679-92 (discussing the usefulness and limitations of “credible worlds” approaches to tax policy modeling).

<sup>330</sup> See notes 17–21 and accompanying text.

<sup>331</sup> See Chetty, note 22, at 454-56 (discussing the relative advantages and disadvantages of sufficient-statistics and structural approaches and concluding that these two approaches “can be combined to address the shortcomings of each strategy”). Also, on this point, it should be understood that this Article’s approach relies as much on inductive reasoning as on deductive reasoning.

