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"A Framework for Analyzing the Optimal
Choice of Tax Instruments"

David Gamage
Berkeley School of Law

SCHEDULE FOR 2014 NYU TAX POLICY COLLOQUIUM
(All sessions meet Thursday 4:00-5:50 p.m., Vanderbilt-208, NYU Law School)

1. January 21 – Saul Levmore, University of Chicago Law School, "From Helmets to Savings and Inheritance Taxes: Regulatory Intensity, Information Revelation, and Internalities." (Main discussion paper); and "Internality Regulation Through Public Choice." (Background paper).

2. January 28 – Fadi Shaheen, Rutgers-School of Law, Newark, "The GAAP Lock-Out Effect and the Investment Behavior of Multinational Firms."; "Evaluating Investments of Locked-Out Earnings (an Outline).

3. February 4 – Nancy Staudt, University of Southern California, Gould School of Law "The Supercharged IPO."

4. February 11 – Thomas J. Brennan, Northwestern University School of Law, "Smooth Retirement Accounts."

5. February 25 – Chris Sanchirico, University of Pennsylvania Law School. "As American as Apple Inc., International Tax and Ownership Nationality."

6. March 4 – James R. Hines, Jr. and Kyle D. Logue, University of Michigan Law School, "Delegating Tax."

7. March 11 – Stephanie Sikes, Wharton School, Accounting Department, University of Pennsylvania. "Cross-Country Evidence on the Relation between Capital Gains Taxes, Risk, and Expected Return."

8. March 25 – Matthew C. Weinzierl, Harvard Business School, "Revisiting the Classical View of Benefit-based Taxation."

9. April 1 – Andrew Biggs, American Enterprise Institute, "The Risk to State and Local Budgets Posed by Public Employee Pensions."

10. April 8 – Susannah Camic Tahk, University of Wisconsin Law School, "The Tax War on Poverty."

11. April 15 – Nirupama Rao, NYU Wagner School, "The Price of Liquor is Too Damn High: State Facilitated Collusion and the Implications for Taxes."

12. April 22 – Kimberly Clausing, Reed College, Economics Department, "Lessons for International Tax Reform from the U.S. State Experience under Formulary Apportionment."

13. **April 29 – David Gamage, Berkeley School of Law, "A Framework for Analyzing the Optimal Choice of Tax Instruments."**

14. May 6 – Mitchell Kane, NYU School of Law, "Reflections on the Coherence of Source Rules in International Taxation."

A Framework for Analyzing the Optimal Choice of Tax Instruments

By David Gamage[1]

(68 Tax Law Review, *forthcoming*)

What mix of policy instruments should governments employ to raise revenues or to promote distribution? The dominant answer to this question in the tax theory and public finance literatures is that (with limited exceptions) governments should rely exclusively on a progressive consumption tax. Thus, among other implications, the dominant view is that governments should not tax capital income or wealth, and that legal rules should not be designed to promote distribution.

In contrast, this Article argues that governments should make use of a number of tax and non-tax policy instruments to raise revenues and to promote distribution. Furthermore, this Article argues that governments may have much greater capacity to raise revenues and to promote distribution at lower efficiency costs than is generally recognized. Whereas the existing theoretical literature focuses on a small number of distortionary costs that result from taxation (in particular, on labor-to-leisure and saving-to-spending distortions), this Article analyzes the implications of taxpayers engaging in a diverse variety of tax-gaming responses. To the extent that taxpayers respond to different tax instruments through different forms of tax gaming, this Article demonstrates that governments can raise revenues and promote distribution more efficiently by employing a variety of different policy instruments.

Based on these insights, this Article develops a sufficient-statistics framework for analyzing optimal-choice-of-tax-instruments questions. Applying that framework, this Article argues that at least some legal rules should be designed to promote distribution. This Article further shows how to roughly quantify the optimal extent to which each such legal rule should be used to promote distribution.

INTRODUCTION

Inequality has been growing dramatically over the past few decades.[2] In the U.S., the concentration of income controlled by the top one percent has more than doubled since the 1970s.[3] Moreover, due to factors like technological advancement, there is reason to expect 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.[4]

Many have argued 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.[5] 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-minimization techniques.[6] There is thus a wide literature analyzing how we might reform income taxes so as to more efficiently raise revenues and "promote distribution"[7] while causing less economic harm.

Ultimately, however, there are both administrative and political constraints on the extent to which real-world income taxes might plausibly be reformed. No one seriously suggests that tax avoidance and evasion could be completely eliminated in real-world contexts. Thus, to complement attempts to reform existing income taxes, this Article argues that governments should also raise revenues and promote distribution through a number of supplementary policy instruments.

In particular, this Article argues that at least some legal rules should be designed to promote distribution, rather than conducting distribution policy exclusively through the setting of tax rates. Furthermore, building on this Article's analysis, a forthcoming companion piece will argue that governments should: (a) levy *both* personal labor-income taxes and value-added consumption taxes, (b)

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[2] Facundo Alvaredo, Anthony Atkinson, Thomas Piketty, & Emmanuel Saez, *The Top 1 Percent in International and Historical Perspective*, NBER WORKING PAPER 19075, at 2-6 (2013). By "inequality" in this context, I mean within-nation income- and wealth-related inequality. *See also* Thomas Piketty, Capital in the 21ˢᵗ Century (Harvard University Press, 2014).

[3] Alvaredo et. al, *supra* note, *id.* at 1.

[4] Tyler Cowen, Average is Over: Powering America Beyond the Age of the Great Stagnation (2013); Erik Brynjolfsson & Andrew McAfee, Race Against the Machine: How the Digital Revolution is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and the Economy (2011).

[5] Peter Diamond & Emmanuel Saez, *The Case for a Progressive Tax: From Basic Research to Policy Recommendations*, 25 J. OF ECON. PERSPECTIVES 165, 167-75 (2011).

[6] *E.g.*, Martin Feldstein, *Effects of Taxes on Economic Behavior*, 61 NAT. TAX. J. 131, 137 (2008).

[7] Throughout this Article, I purposefully refer to "promoting distribution" and similar terms, 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. *See* David Gamage & Darien Shanske, *Three Essays on Tax Salience: Market Salience and Political Salience*, 65 TAX L. REV. 19, 79-98 (2011).

tax *both* capital income and wealth, *and* (c) make use of a number of other tax and non-tax legal rules for distributive purposes.[8]

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.[9] This Article analyzes how the models underlying double-distortion arguments can be generalized to account for taxpayers engaging in a diverse variety of tax-gaming responses. This Article argues that generalizing double-distortion models in this fashion implies that governments should make use of a number of policy instruments in order to raise revenues and to promote distribution, contrary to the prescriptions typically drawn from double-distortion models. Consequently, this Article's analysis implies that governments may have much greater capacity to raise revenues and to promote distribution, at lower efficiency costs, than is generally recognized.

Often called "optimal tax theory", the modern structure of public-finance economics was largely engineered around models of labor-to-leisure distortions.[10] In other words, scholars considered people reducing their work effort in response to taxation to be a central problem of tax policy. In the 1970s and 1980s, when many of the foundational insights of optimal tax theory were first generated, both the empirical and theoretical literatures offered reason for inferring 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 research imply that labor-to-leisure distortions may be of only secondary importance for most tax policy questions.

First, the recent empirical literature suggests that taxpayers primarily respond to taxation not through labor-to-leisure substitutions, but rather through a variety of tax-reduction strategies that we might collectively label as tax "gaming."[11] This appears to especially be true with respect to high-income

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[8] David Gamage, *Analyzing the Optimal Choice of Tax Instruments: The Case for Levying (all of) Labor-Income Taxes, Value-Added Taxes, Capital-Income Taxes, and Wealth Taxes* (on file with author) [hereinafter Gamage, *Analyzing*].

[9] The phrase "double-distortion argument" is primarily only used in the existing literature to refer to Kaplow and Shavell's analysis of distribution through legal rules. But similar arguments are made in a variety of other policy contexts, and for ease of exposition, I use this phrase to refer the entire class of policy arguments made based on similar underlying logic.

[10] *E.g.*, Louis Kaplow, The Theory of Taxation and Public Economics 317 (2008) (stating that incentive concerns "involving labor effort" are "the focus of most optimal tax analysis"); James Banks & Peter Diamond, *The Base for Direct Taxation*, IFS WORKING PAPER 27 (2008) ("Standard modeling assumes perfect observation of capital and labour incomes.").

[11] I use the term "gaming" to abstract from whether the tax-reduction behaviors in question are legal or illegal. Many important real-world gaming behaviors are of borderline legality. For further discussion of the nature of tax gaming, see Part II.A.2. *infra*.

For reviews of the empirical literature, *see, e.g.*, Emmanuel Saez, Joel Slemrod, and Seth H. Giertz, *The Elasticity of Taxable Income With Respect to Tax Rates: A Critical Review*, 50 J. OF ECON LIT. 3, 42 (2012) (concluding that "while there is compelling evidence of strong behavioral responses to taxation at the upper end of the distribution" that these responses consist entirely of "timing and avoidance" transactions, and that "[i]n contrast, there is no compelling evidence to date of *real* economic responses to tax rates...."); Costas Meghir and David Phillips, *Labour Supply and Taxes*, IFS WORKING PAPER 45 (2008) ("For highly educated individuals the sensitivity of both hours of work and participation to work incentives are almost zero."); Gamage, *Analyzing*, Parts I.B. & II.B (evaluating the empirical literature, and concluding that the available evidence suggests that high-income

taxpayers, for whom distributional considerations are particularly relevant. Indeed, the recent literature finds essentially no evidence that high-income taxpayers significantly reduce their labor effort in response to taxation.[12] In contrast, there is a plethora of evidence documenting that high-income taxpayers respond to taxation through a diverse variety of gaming strategies.[13]

Second, in consideration of these empirical findings, the recent theoretical literature has developed much better techniques for modeling 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-minimization techniques. It is thus difficult to generate generalizable insights from models of specific tax-gaming responses.[14] To address these challenges, the recent literature has developed a sufficient-statistics methodology for modeling tax responsiveness.[15] In contrast to the earlier approaches which analyzed specific forms of tax gaming, the newer sufficient-statistics methodology generates insights by modeling aggregate categories of gaming responses.

Building on these recent empirical and theoretical advances, the public-finance literature is currently in the process of greatly expanding our capacity to analyze tax systems.[16] Yet these insights from the recent literature have not yet been fully incorporated into an important set of policy problems that I will label as "optimal-choice-of-tax-instruments" questions.

I will use the term "tax instrument" to refer to any policy variable that a government might adjust in order to raise revenues or to promote distribution.[17] I will thus use the phrase "the optimal choice of tax instruments" to refer to governments' decisions about how to raise revenues or to promote distribution, abstracting from the related questions of how much revenues should be raised or how much distribution should be promoted. Hence, under my definitions, "optimal-choice-of-tax-instruments" questions take as their starting point pre-specified social-welfare weights for balancing distribution 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 distribution and

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taxpayers respond to taxation primarily through tax-gaming, not through labor-to-leisure or saving-to-spending responses).

[12] Note 10, *id.*

[13] Note 10, *id. See also, e.g.,* Douglas A. Shackelford, *The Tax Environment Facing the Wealthy,* in DOES ATLAS SHRUG? THE ECONOMIC CONSEQUENCES OF TAXING THE RICH at 114 (Slemrod ed., 2000) (discussing gaming strategies); Jesse Drucker, *How to Pay No Taxes: 10 Strategies Used by the Rich,* BUSINESSWEEK, April 17, 2012 (same).

[14] Raj Chetty, *Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods,* 1 ANNUAL REVIEW OF ECONOMICS 451, 467 (2009).

[15] *Id.* at 467-73.

[16] For an overview of some of this research, see Joel Slemrod & Christian Gillitzer, Tax Systems (MIT Press, *forthcoming* 2014).

[17] "Tax instruments" thus stand in contrast to "regulatory instruments"—which are designed for ends other than raising revenues or promoting distribution. However, some policy instruments might function both as regulatory instruments and as tax instruments, insofar as a government can adjust these policy instruments to further both regulatory and revenue or distributional goals. In other words, legal rules that are primarily designed for regulatory purposes may also function as tax instruments to the extent that the legal rules can be adjusted so as to promote distribution or to raise revenues for the government.

efficiency, optimal-choice-of-tax-instruments questions ask which policy instruments a government should use for raising revenues or for promoting distribution and to what extent the government should rely on each tax instrument so used.

The existing economics-oriented literature on the optimal choice of tax instruments is dominated by two different approaches. First, as mentioned previously, what is sometimes called the "double-distortion" approach applies the insights from an important public-finance innovation of the 1970s—the Atkinson-Stiglitz model.[18] 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 the exact 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.[19] Therefore, differentially taxing how money is spent induces the "double distortion" of both labor-to-leisure distortions and also distortions in how taxpayers spend the money they earn. For this reason, with limited exceptions,[20] the advocates of double-distortion arguments typically conclude that all distribution should be conducted either through a labor-income tax or through a comprehensive consumption tax that levies the same tax rate on all forms of spending.

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—in what has been called a "pro-consumption tax consensus".[21] More generally, double-distortion scholarship has concluded that nearly all tax and non-tax 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.[22] Although not universally accepted, the double-distortion approach is probably the "dominant position in tax law and policy."[23] 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.[24]

To understand the central intuition underlying how this Article departs from the double-distortion approach, we need to examine further the mechanism whereby taxes on how money is spent (such as excise taxes) induce labor-to-leisure distortions. Labor-to-leisure distortions operate directly through taxpayers substituting untaxed leisure consumption for purchased consumption that is taxed

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[18] For further discussion, see Part I.A.2 *infra*.

[19] Kaplow, The Theory, *supra* note __, at 122-33.

[20] For a discussion of the exceptions in which double-distortion scholarship agrees that instruments other than a labor-income or consumption tax should be used for distribution, see Part II.A.1. *infra*.

[21] Daniel Shaviro, *Beyond the Pro-Consumption Tax Consensus*, 60 STANFORD L. REV. 745, 745-47 (2007).

[22] *E.g.*, David Weisbach, *Taxes and Torts in the Redistribution of Income*, 70 U. OF CHI. L. REV. 493 (2002); Louis Kaplow, *Why the Legal System is Less Efficient Than the Income Tax in Redistributing Income*, 23 J. LEGAL STUD. 667 (1994).

[23] Chris Sanchirico, *Tax Eclecticism*, 64 TAX L. REV. 149, 224 (2011).

[24] For examples of how the double-distortion approach has been applied to numerous different policy areas, see Kaplow, The Theory, *supra* note __.

both by labor-income taxes (when the money is earned) and by excise taxes (when the money is spent).[25] Consequently, the incentives that taxation creates to substitute leisure for labor are a 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 or through legally taking advantage of a tax loophole.[26] 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.[27] Yet as long as the taxpayer incurs less than a dollar of costs per dollar of labor-income-tax savings,[28] claiming this deduction will reduce the taxpayer's labor-income-tax liability in excess of any reduction to the taxpayer's monetary resources usable 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 have only a secondary (and directionally ambiguous) effect on taxpayers' incentives to engage in these forms of tax-gaming responses.[29] 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.[30] As compared to raising all revenues through a labor-income tax, then, raising some revenues through excise taxes can reduce taxpayers' incentives to engage in forms of tax gaming that operate like claiming artificial or inflated labor-income-tax deductions. Moreover, as will be elaborated further below, there is reason to think than many of the most important gaming responses through which high-income taxpayers currently respond to real-world tax instruments operate (in this sense) like claiming artificial or inflated tax deductions.[31]

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[25] A central assumption of double-distortion models is that the government cannot tax leisure consumption.

[26] For examples and further discussion, see Part I.C.1 *infra*.

[27] Indeed, as will be discussed further in Part II.A.2., only those forms of tax-responsiveness for which taxpayers incur costs are relevant for analyzing optimal tax mix questions.

[28] This will generally be the case except at the margin, as discussed in Part II.A.2. *infra*.

[29] To see why, imagine if a government set the labor-income tax rate at zero, thus raising all revenues through excise taxes. Assuming that the labor-income tax was not refundable, taxpayers would then have no incentives to claim artificial or inflated labor-income-tax deductions, as doing so would produce no tax benefit. More generally, excise tax rates do not induce substitution effects with respect to the choice of whether to claim artificial or inflated labor-income-tax deductions. Instead, excise tax rates only affect the incentives to claim these deductions through income effects, which are directionally ambiguous.

[30] For elaboration, see Part II.A.1 *infra*.

[31] See Part I.C.1 *infra*.

There is some previous economics research evaluating specific forms of tax gaming through analyses of this sort.[32] This Article's primary contribution is to generalize this insight about tax gaming into a sufficient-statistics 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—contrary to the assumptions underlying double-distortion arguments. Hence, 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 revenues 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.[33]

Based on the evidence that excise taxes generate approximately double the efficiency costs per any fixed about of revenues raised, it might seem that the government should raise all of its revenues through the labor-income tax. However, that a tax instrument is a superior mechanism for raising any fixed sum of revenues does <u>not</u> 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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[32] Most relevantly, Gordon and 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. Similar to this Article, Gordon and Nielsen prescribe that both tax instruments should be used in order to minimize overall distortionary costs. Roger Gordon & Soren Nielsen, *Tax Evasion in an Open Economy: Value-Added vs. Income Taxation*, 66 J. OF PUB. ECON. 173 (1997). Beyond Gordon and Nielsen's article, a handful of prior papers have modeled the implications of purely illegal tax evasion for optimal-choice-of-tax-instruments questions. However, these papers have generally employed strong modeling assumptions, such that these papers have limited applicability to real-world policy questions. *See, e.g.,* Wolfram Richter & Robin Boadway, *Trading Off Tax Distortion and Tax Evasion*, 73 J. OF PUBLIC ECONOMIC THEORY 361 (2005); Robin Boadway, Maurice Marchand, & Pierre Pestieau, *Towards a Theory of the Direct-Indirect Tax Mix*, 55 J. OF PUB. ECON 71 (1994); Jonathan Kesselman, *Evasion Effects of Changing the Tax Mix*, 69 THE ECONOMIC RECORD 131 (1993). For further discussion, see notes ___ and ___ and accompanying text *infra*.

[33] In the terminology developed in Part I, *infra*, 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 revenues 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-exclusive) tax rates.[34] 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-minimization behaviors.[35] 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.[36]

In order to minimize overall efficiency costs, then, we might estimate that our 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.[37] That the excise taxes generate approximately double the efficiency costs per any fixed amount of revenues 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. Hence, 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 revenues raised might be expected to be higher for the labor-income tax than for the excise taxes.[38]

This example is oversimplified on a number of dimensions. As will be explained further below, a more complete analysis suggests that this example probably understates the advantages of levying multiple tax instruments.[39] Nevertheless, this example should suffice to demonstrate that, when comparing multiple tax instruments none of which dominates the others, we must base our 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 mechanisms for raising any fixed sum of revenues or for promoting any fixed amount of distribution. Yet, even if this is so, it may still be optimal for governments to employ a variety of supplementary tax instruments. The evidence suggests that many high-income

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[34] For further discussion, see Parts I.A.1. & II.A.2., *infra*.

[35] *Id.*

[36] *Id.*

[37] 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—we might estimate the distortionary costs generated as l^2 for the labor-income tax and as $2e^2$ for the excise taxes. Ignoring for now that the revenues generated by increasing a tax rate rise less than linearly, we can estimate that overall distortionary costs are 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. Most importantly, these calculations assume that the efficiency costs generated by both tax instruments entirely arise from single-instrument responses (as will be defined and elaborated in Part I *infra*). For a more complete discussion see notes __ and accompanying text *infra*.

[38] *See id.*

[39] *See* Part I.C.2. *infra*.

taxpayers find real-world labor-income and consumption taxes to be rather porous.[40] Consequently, once we understand 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 revenues, these tax instruments may be superior on the margin for raising significant amounts of revenues or for promoting significant amounts of distribution.

This discussion of the importance of the marginal cost of public funds (or "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.[41] In accordance with double-distortion arguments, economists often model the MCPF 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.[42] However, this Article 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 of each tax instrument is partially a function of the government's choices with respect to other tax instruments.[43]

Similar to this Article, some of the papers in the prior MCPF-based literature do model the MCPF of specific tax instruments as being contingent on the government's policy choices with regard to other tax instruments—such as in the work of Chris Sanchirico.[44] However, these MCPF-based approaches cannot readily be applied to answer most optimal-choice-of-tax-instruments questions based on the available empirical information.[45] For instance, in Sanchirico's framework, the key question is what

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[40] See Part I.C.1 *infra*.

[41] Nathaniel Hendren, *The Policy Elasticity*, at 5 (May 2013), *available at* http://scholar.harvard.edu/files/hendren/files/the_policy_elasticity_v130524.pdf. The MCPF concept is highly related to the marginal efficiency cost of public funds (or "MECF") concept, with the major difference being that the MCPF is understood to potentially include distributional implications, whereas the MEFC does not.

[42] *See id.* at 21 ("The main difference is my definition of the MCPF is policy-specific....my approach contrasts with the broader spirit of the MCPF literature in that I do not attempt to define a single MCPF...").

[43] See note __ and accompanying text *infra*. *See also* Hendren, *supra* note __, at 2-15 (also arguing that the MCPF of specific tax instruments varies based on the other tax instruments the government employs). 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).

[44] Note that Sanchirico expresses his version of the MCPF through the related concept of the "revenue price of redistribution." Sanchirico, *Eclecticism, supra* note __, at 225.

[45] Beyond Sanchirico's work, perhaps 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, *supra* note __. 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 empirical estimates for the unique MCPFs of every tax instrument that the government is

information a tax instrument is capable of revealing about taxpayers beyond the information elicited by other tax instruments.[46] The main prescriptions 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 government 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.[47] Although these prescriptions are certainly correct on a general level, Sanchirico's framework is not sufficiently granular for it to answer 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.[48] 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.[49]

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 "provide little if any insight into *how* such attributes should be included" in the design of tax systems.[50] 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.

In contrast, this Article develops a sufficient-statistics framework that is designed for the purpose of answering real-world optimal-choice-of-tax-instruments questions.[51] This Article's framework is more encompassing than are double-distortion models, as this Article's framework is designed to incorporate the key considerations needed for welfare analysis—such as tax-gaming distortions and also administrative and compliance costs. Yet this Article's framework is also designed so as to facilitate legal scholars making predictions about which tax instruments should be used, and about how each such tax instrument should be used, even in the absence of comprehensive empirical information about all of the potentially relevant parameters.

With both comprehensive empirical information and unlimited computing power, this Article's approach should generate the exact same answers as Sanchirico's framework and as any other MCPF-

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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 notes __ and accompanying text *infra*. Consequently, with respect to many (but not 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 their experience with real-world tax instruments. These conclusions also generally apply to comparing this Article's framework to Slemrod and Yitzhaki's MCPF-based framework, which is very similar to Hendren's framework. Joel Slemrod & Shlomo Yitzhaki, *The Costs of Taxation and the Marginal Efficiency Cost of Funds*, 43 IMF STAFF PAPERS 172 (1996).

[46] Sanchirico, *Eclecticism*, *supra* note __, at 209-11.

[47] *Id.*

[48] *Id.* at 225.

[49] *Id.* at 224.

[50] Sanchirico, *Eclecticism*, *supra* note __, at 158.

[51] For further discussion of the connections between this Article and Sanchirico's work, see Part II.A.1. *infra*.

based framework that properly models the MCPF of tax instruments as depending on the government's choices with respect to other tax instruments.[52] However, this Article's approach is designed so as to express its key parameters in terms that correspond with the knowledge and experience of legal scholars. Consequently, legal scholars and other policy analysts should be able to apply this Article's framework to make rule-of-thumb predictions based on the available empirical information and—for those parameters for which empirical estimates are not available—on intuitions about the plausible bounds of those parameters derived from experience with real-world tax instruments.

This Article proceeds in two Parts: First, Part I develops a sufficient-statistics framework for analyzing optimal-choice-of-tax-instruments questions. Second, Part II evaluates the implications of relaxing some of the key assumptions underlying the sufficient-statistics framework outlined in Part I, and then applies the framework developed in Part I to the question of whether legal rules should be designed to promote distribution.

Beyond Parts I and II, this Article is the first portion of a two-part project. The forthcoming companion paper to this Article will build 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— including the use of: labor-income taxes, value-added taxes, capital-income taxes, and wealth taxes.[53]

I. DEVELOPING THE SUFFICIENT-STATISTICS 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.[54] "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.[55] We 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.[56] The social welfare losses that result from taxpayers incurring

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[52] See note ___ *supra* for discussion of Hendren's and Slemrod and Yitzhaki's frameworks.

[53] Gamage, *Analyzing, supra* note ___.

[54] Throughout this Article, I will 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.

[55] In other words, the term "ability" is not meant to convey any notions of dessert or merit.

[56] 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 foregone in response to taxation.

costs in order to conceal their ability from the government are often called "excess burden", "deadweight loss", "efficiency costs", or "distortionary costs."

A government could minimize distortionary costs by levying only lump-sum taxes (sometimes called head taxes)–wherein each taxpayer would be assessed a fixed tax liability the amount of which would not vary based on any choices made by the taxpayer.[57] The reason governments do not typically levy lump-sum taxes is distribution. For instance, it would strike many as unfair for a government to demand a ten thousand dollar 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 tradeoff between distribution and efficiency.

Much of the foundational work relied upon by double-distortion arguments begins by considering the question of whether luxury goods purchases should be subject to higher tax rates than non-luxury goods purchases. In other words, should governments promote distribution by levying luxury excise taxes? Or should all distribution instead be conducted by taxing labor income at progressive rates?

Correspondingly, this Part will develop a sufficient-statistics 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 will rely 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, non-separable preferences in labor and consumption, non-well-behaved utility or cost functions, externalities, tax-salience effects, political-economy considerations, cross elasticities, general-equilibrium effects, non-welfarist considerations, or other complications that might result from relaxing the assumptions underlying double-distortion models or microeconomic analyses more generally.[58] Some of these complications will be analyzed later in Part II.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.

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.[59]

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[57] Real-world attempts at head taxes would probably not completely eliminate distortionary costs, as taxpayers might respond by (for example) moving out of the tax jurisdiction.

[58] For discussions of these complications, *see, e.g,* Thomas Piketty and Emmanuel Saez, *Optimal Labor Income Taxation,* NBER WORKING PAPER 18521, at 34-38, 53-56, & 68-75 (2012) (taxpayer heterogeneity and non-welfarist effects); Kaplow, The Theory, *supra* note __, at 119-120 & 135-145 (general-equilibrium effects, tax salience effects—called "taxpayer illusion", externalities, political economy considerations, preferences non-seperable in labor and consumption, taxpayer heterogeneity).

[59] More complete expositions of these models can be found at, e.g., Kaplow, The Theory, 122-33; Alan Auerbach & James Hines, *Taxation and Economic Efficiency,* NBER WORKING PAPER 8181, 15-21 & (2001).

Based on the logic of double-distortion arguments, it has become accepted wisdom that the Ramsey model does not apply to optimal-choice-of-tax-instruments questions when a government can levy a labor-income tax.[60] I will 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 revenues and conduct distribution through excise taxes assessed on the purchases of goods and services.[61] Thus, even the scholars most associated with double-distortion arguments acknowledge that the Ramsey model may be applicable in developing countries if it is impractical to rely on labor-income taxes.[62]

Three general prescriptions follow from the basic Ramsey model.[63] I will 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.[64] "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, then, the elasticity principle implies that lower tax rates should be set for tax instruments which induce more elastic tax-reduction behaviors. Conversely, the elasticity principle implies that higher tax rates should be set for tax instruments which 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."[65] As noted

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[60] Kaplow, The Theory, *supra* note __, at 145 ("it is useful to set forth this conflict and to explain why the use of Ramsey principles is inappropriate when there is an income tax."). The Ramsey model is also thought not to apply to optimal-choice-of-tax-instruments questions when the government can levy a progressive consumption tax. However, the Ramsey model is thought to apply to questions such as how to design line-drawing rules within a labor-income tax or a progressive consumption tax, as in: David Weisbach, *Line Drawing, Doctrine, and Efficiency in Tax Law*, 84 CORNELL L. REV. 1627 (1999).

[61] For an excellent and more elaborate discussion of the Ramsey model, written to be accessible to legal scholars, see Weisbach, *id.*

[62] Kaplow, The Theory, *supra* note __, at 148.

[63] More sophisticated versions of the Ramsey model allow for cross elasticities and other complications which I assume away in this Part in order to simplify the discussion.

[64] Gruber calls this the "elasticity rule." JONATHAN GRUBER, PUBLIC FINANCE AND PUBLIC POLICY 588 (2nd ed., 2007).

[65] *Id.* Gruber calls this the "broad base rule". My terminology follows BERNARD SALANIE, THE ECONOMICS OF TAXATION at 54-55 (2003).

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.[66] 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.[67] 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.[68] 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 ½(Base)(Height), the 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. More generally, as long as taxpayers' marginal costs to 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.[69]

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.[70] I will evaluate the assumption that taxpayers face continuously increasing marginal costs to engaging in tax-reduction behaviors further in Part II.A.2. For now, I will 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.

Together, the elasticity principle and the tax-smoothing principle generate what is commonly referred to as the "inverse-elasticity rule."[71] Whereas the elasticity principle implies that higher tax rates should be set for tax instruments that induce less elastic tax-reduction behaviors, the tax-

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[66] Note __ *supra* and accompanying text.

[67] See Part II.A.2. *infra*.

[68] 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 foregone 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 Part II.A.2. *infra*.

[69] *E.g.*, Auerbach and Hines, *supra* note __, at 94; HARVEY S. ROSEN & TED GAYER, PUBLIC FINANCE 340 (8th ed., 2008); John Creedy, *The Excess Burden of Taxation and Why it (Approximately) Quadruples When the Tax Rate Doubles*, NEW ZEALAND TREASURY WORKING PAPER 03/29 (2003).

[70] Creedy, *supra* note __, at 3.

[71] Gruber, *supra* note __, at 588.

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 based on the fraction of one divided by the instrument's elasticity.[72] No matter how large the elasticity in the denominator, then, dividing a numerator of one by the elasticity always yields a positive tax rate.[73] 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.[74]

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.[75] 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.[76] Distribution must thus be a key concern when applying the Ramsey model. The distribution principle thus reminds us that we need to depart from the efficiency-maximizing prescriptions of the inverse-elasticity rule in order to promote distribution. The extent to which the Ramsey model prescribes departing from the inverse-elasticity rule in order to promote distribution is determined by the pre-specified social welfare weights.

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 revenues or to promote distribution 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 principle still implies that every tax instrument should be levied with a positive tax rate.[77]

However, the Atkinson-Stiglitz model demonstrates that some tax-reduction behaviors may operate differently from the assumptions of the Ramsey model.[78] The Atkinson-Stiglitz model differs

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[72] *Id.*

[73] The exception being if the elasticity is infinite—implying that the tax instrument is not capable of raising any amount of positive revenues.

[74] For a paper that incorporates administrative and compliance costs into the Ramsey model, see Joel Slemrod & Wojciech Kopczuk, *The Optimal Elasticity of Taxable Income*, 84 J. OF PUBLIC FINANCE 91 (2002).

[75] *See, e.g.,* Gruber, *supra* note __, at 588-89.

[76] *See* Notes __ and accompanying text *supra.*

[77] Note that this conclusion depends on the assumptions of this Part, which are relaxed in Part II.A.

[78] Kaplow, The Theory, at 123-35.

from the Ramsey in two key respects.[79] 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 conduct distribution 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.[80] 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).

In contrast to the Ramsey model, the Atkinson-Stiglitz model prescribes against taxing the consumer goods at differential rates. 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, any set of tax rates levied on consumer goods will generate the exact 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.[81] 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 distribution 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

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[79] Note that there are many variations of the Ramsey model, some of which incorporate features of the Atkinson-Stiglitz model as discussed above. 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.

[80] Kaplow, The Theory, at 123-35.

[81] Note ___ *supra*. 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 Part II.A.1. *infra*.

taxes. However, as this Section attempts to make clear, 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.[82] Some tax-reduction responses allow taxpayers to simultaneously reduce their tax liabilities with respect to multiple distinct tax instruments. I will label these distortionary tax-reduction behaviors as "multi-instrument" responses. Other tax-reduction responses only allow taxpayers to reduce their tax liabilities with respect to a single tax instrument. I will label these distortionary tax-reduction behaviors as "single-instrument" responses.

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 incentives to substitute leisure for labor are thus a direct function of the tax rates of both of these instruments. In contrast, as noted earlier, the incentives to claim artificial or inflated labor-income tax deductions are a direct function of only the tax rates of the labor-income tax. Claiming artificial or inflated labor-income tax deductions is thus a single-instrument response for the labor-income tax, with respect 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.[83] 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 distinct 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 distinct tax instruments. In other words, taxpayers who incur

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[82] See Part I.C.1. *infra.*
[83] For elaboration, see Part II.A.2. *infra.*

costs in order to reduce their tax liabilities from one tax instrument cannot also simultaneously reduce their tax liabilities from another tax instrument, unless 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.[84] 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

Having distinguished between single-instrument and multi-instrument responses, we can now see that 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.[85] 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 revenues 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 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 revenues through the luxury excise taxes, taxpayers could only respond by shifting from labor to leisure.

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[84] For discussion, see Michael Livingston & David Gamage, Taxation: Law, Planning, & Policy 349-66 (2010).

[85] As was explained above, under the assumptions of the Atkinson-Stiglitz model, labor-to-leisure distortions operate as multi-instrument responses because leisure consumption is assumed to be exempt from taxation under both labor-income taxes and excise taxes. In contrast, distortions involving taxpayers switching from purchasing higher-taxed goods to purchasing lower-taxed goods operate as single-instrument responses for the excise taxes only, because these responses are assumed to only enable taxpayers to reduce their excise-tax liabilities, without also reducing the taxpayers' labor-income-tax liabilities.

Hence, 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

We can now proceed toward analyzing more realistic scenarios. In real-world contexts, it will almost certainly be the case both that a labor-income tax will induce some distortionary responses that would not be induced by luxury excise taxes <u>and</u> 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.

Let us continue to evaluate 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 us to consider the single-instrument responses. In other words, we 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, we 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.[86] Hence, when comparing multiple tax

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[86] Notes ___ *supra* and accompanying text.

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), "it 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…."[87] 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."[88] 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 prescriptions of the Ramsey model.[89] 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 will always 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.[90]

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[87] ROSEN & GAYER, *supra* note __, at 340.

[88] Alan Auerbach, *Comment*, in <u>Taxing Capital Income</u> at 86 (2007).

[89] *E.g.*, Piketty and Saez, *supra* note __ at 31.

[90] 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 the tax instrument with sufficiently low rates will always produce lower distortionary costs per dollar of tax revenues raised than would raising all revenues from tax instruments that are less distortionary on average. The only exceptions would be if a tax instrument were incapable of raising any revenues or would produce infinite average distortionary costs. For further elaboration, *see, e.g.*, Gruber, *supra* note __, at 588.

However, note that this conclusion depends on the assumptions of this Part. Thus, for instance, even in the absence of administrative and compliance costs, it may be optimal to forgo levying some tax instruments if those tax instruments are sufficiently strong leisure complements; see Part II.A.1. *infra*.

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 distortionary responses that would not be induced by other available tax instruments.[91] 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 amongst 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 sufficient-statistics framework capable of incorporating all first-order concerns related to optimizing distribution and efficiency.[92]

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 will generally be the case. Yet, as explained earlier, the overall costs from single-instrument responses can be minimized by levying 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.[93] 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.

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[91] For further discussion, see Part I.C.1. *infra*.

[92] For discussion of sufficient-statistics frameworks, see Chetty, *Sufficient Statistics, supra* note __.

[93] *E.g.,* Slemrod & Kopczuk, *supra* note __; Daron Acemoglu, Mikhail Golosov, & Aleh Tsyvinski, *Political Economy of Ramsey Taxation*, NBER WORKING PAPER 15302 (2009).

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 will by definition 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.

Some tax-minimization strategies may operate as hybrids between multi-instrument and single-instrument responses. If taxpayers can alter 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 we might consider this 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, we need 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 – we 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 only generate instrument-shifting responses 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.[94] 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.

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[94] Notes __ and accompanying text *infra*.

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 instruments close to equal.[95] If instrument-shifting responses are the only relevant social welfare costs generated by a set of tax instruments, then tax rates should thus 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.[96]

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.[97] 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. Hence, if minimizing other social welfare costs requires setting one tax rate higher than the other, then 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 model for determining the optimal choice of tax instruments must also consider administrative and compliance costs.[98] Hereinafter, I will 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.[99]

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.[100] 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.

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[95] For a formal model and related discussion making this point, see Piketty & Saez, *supra* note ___, at 29-31.

[96] *Id.* at 31.

[97] *Id.*

[98] For an excellent analysis of administrative and compliance costs, see Joel Slemrod and Shlomo Yitzhaki, *Tax Avoidance, Evasion, and Administration*, NBER WORKING PAPER 7473, at 36-39 (2000). 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 (2005).

[99] My terminology follows Daniel Shaviro, *An Efficiency Analysis of Realization and Recognition Rules Under the Federal Income Tax*, 48 TAX. L. REV. 1, 24 (1992), who defines "overhead costs" as "the amount of resources (including the value of time or labor) consumed in applying the tax system, through taxpayer or government activities such as tax planning, compliance, litigation, administration, and law-making."

[100] Gamage, *Analyzing*, Part I.B.2.

First, there is reason to infer that overhead costs often rise with the number of tax instruments levied, even holding revenues raised constant. [101] In other words, there may often be a fixed component to overhead costs with respect to each tax instrument levied. To the extent that there is a significant fixed component to overhead costs, levying an additional tax instrument can potentially 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 may thus be minimized by levying fewer tax instruments. However, this prescription 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 could potentially 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 persons (or other agents) charged with tax remittance obligations. [102] Joel Slemrod has argued based on this notion that overhead costs may often 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. [103] 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 are likely to be much lower than for tax instruments levied more broadly.

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[101] Slemrod & Yitzhaki, *supra* note __, at 37 ("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, and John Whiting, *Administration & Compliance*, IFS Working Paper, at 20 (2008) ("average [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...").

[102] Slemrod & Gillitzer, *supra* note __, at 71-78; Slemrod & Yitzhaki, *supra* note __, at 37-38.

[103] Joel Slemrod, *Does it Matter Who Writes the Check to the Government? The Economics of Tax Remittance*, 61 NAT. TAX. J. 251 (2008).

C. Outlining a Sufficient-Statistics Framework

Based on the tax-smoothing principle, perhaps the most agreed-upon advice that tax academics offer to policy makers is that tax systems should be designed with broad bases and low rates.[104] 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.[105] 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-broadening prescriptions does not apply to optimal-choice-of-tax-instruments questions.[106]

However, once we incorporate tax-gaming responses, 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 should perhaps not levy every available tax instrument is that doing so could significantly increase overhead costs.[107]

The remainder of this Section first further illustrates the distinction between single-instrument and multi-instrument responses through several examples, then proceeds to explain further the importance of analyzing the marginal costs of raising public funds, and finally concludes by revisiting the question of whether a government should levy luxury-excise taxes to supplement a labor-income tax. The sufficient-statistics framework developed through evaluating the luxury-excise-tax problem can be then applied to a variety of policy questions, as this Article begins to demonstrate in Part II.B., with respect to the question of whether legal rules should be designed to promote distribution.

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[104] *See* note __ *supra*. *But see* James R. Repetti, *The Uneasy Case for a Comprehensive Tax Base,* BC Law School Research Paper 99, July 5, 2006.

[105] Kaplow, The Theory, *supra* note __, at 147-48.

[106] *Id.*

[107] There may also be other reasons to the extent the assumptions of this Part do not hold, as discussed in Part II.A. *infra.*

1. More on the Distinction Between Single-Instrument and Multi-Instrument Responses

To begin, it is worth repeating why labor-to-leisure substitutions may operate as multi-instrument responses when comparing labor-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 a labor-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 labor-income tax and the excise tax.

In contrast, the most straightforward examples of single-instrument responses capable of reducing labor-income-tax liabilities, more than excise-tax liabilities, involve techniques for creating artificial income-tax losses or for inflating income-tax deductions. For instance, prior to the 1986 Tax Reform Act, a very common income-tax-reduction technique was for taxpayers to purchase ownership rights in depreciable assets, taking advantage of the generous depreciation rules and often using techniques for inflating the assessed value of those assets in order to claim deductions many times larger than expenses incurred.[108] 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.[109] Transactions of this sort should largely constitute single-instrument distortions that reduce labor-income-tax liabilities more than excise-tax liabilities, 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.[110]

Certainly, the taxpayers engaging in these labor-income-tax-reduction transactions might also engage in single-instrument responses for reducing their excise-tax liabilities. But the taxpayers will need to incur additional costs in order to do so.[111] Unlike with multi-instrument responses such as labor-to-leisure substitutions, labor-income-tax-reduction transactions that operate through taxpayers reducing their reported taxable incomes in excess of any reductions to actual incomes do not

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[108] Livingston & Gamage, *supra* note __, at 500-504. 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.

[109] *See id.* at 443-46 & 309-20.

[110] 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.

[111] As discussed further in Parts I.C.2. and II.A.2., *infra*, the costs taxpayers must incur to engage in single-instrument responses with respect to each tax instrument should grow exponentially.

simultaneously allow taxpayers to reduce their excise-tax liabilities in addition to their labor-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 labor-income-tax liabilities depend on the rates of the labor-income tax, and do not directly depend on the rates of excise taxes.

Similarly, perhaps the most important tax-reduction strategies employed by high-income taxpayers today involve techniques for receiving income in forms that qualify as capital assets.[112] 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.[113] As 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.[114] Even to the extent that these earnings are eventually taxed at capital-gains rates, then, these techniques enable taxpayers to reduce their labor-income-tax liabilities to the extent of the difference between the ordinary-income and capital-gains tax rates.[115] 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 capable of reducing labor-income-tax liabilities more than excise-tax liabilities.

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.[116] 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 avoidance, Edward McCaffery calls these tax-planning techniques "Tax Planning 101",[117] and Douglas Shackelford concludes that through these techniques

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[112] Shackelford, *supra* note __, 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).

[113] Alan Auerbach, *The Choice between Income and Consumption Taxes: A Primer*, in INSTITUTIONAL FOUNDATIONS OF PUBLIC FINANCE 40, 45 (2008); David Weisbach, *Implementing Income and Consumption Taxes*, in INSTITUTIONAL FOUNDATIONS OF PUBLIC FINANCE 59, 62 (2008).

[114] *E.g.*, David Weisbach, *The Taxation of Carried Interests in Private Equity*, JOHN M. OLIN LAW & ECONOMICS WORKING PAPER NO. 365, at 32 (2007) ("In many cases, such as for investors and entrepreneurs, returns to labor get the capital gains preference."); Shackelford, *supra* note __, at 125-27.

[115] These transactions would thus constitute instrument-shifting distortions when comparing the ordinary-labor-income-tax rules to the capital-gains-tax rules, but the transactions constitute single-instrument distortions when comparing the labor-income tax to excise taxes.

[116] Edward McCaffery, The Oxford Introductions to U.S. Law: Income Tax Law at 12-17 (2012); Shackelford, *supra* note __, at 125-27.

[117] McCaffery, *supra* note __, at 12.

"the capitalist can transform the income tax into a somewhat voluntary assessment."[118] Again, as long as at least some of the earnings that taxpayers are able to exempt from labor-income taxation are used to fund consumption subject to excise taxation, these techniques should constitute single-instrument responses for the labor-income tax as compared to excise taxes.

Of course, labor-to-leisure substitutions are not the only multi-instrument responses capable of simultaneously reducing both labor-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 labor-income and excises taxes, making this move a multi-instrument response for these taxes. 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 avoiding the original jurisdiction's labor-income tax but not fully avoiding the original jurisdiction's excise taxes.

Without continuing to analyze further examples *ad nauseum*, and as a preface to evaluating the relevant empirical literatures, this discussion should suffice to demonstrate that a number of important real-world techniques for reducing labor-income-tax liabilities probably operate at least partially as single-instrument responses when comparing a labor-income tax to excise taxes. It thus seems fairly clear that the existing U.S. labor-income tax induces significant single-instrument distortions as compared to excise taxes.

As the forthcoming companion piece to this Article will elaborate, this conclusion probably also holds for any labor-income or consumption tax a government might plausibly implement, and with respect to a variety of alternative policy instruments other than excise taxes.[119] Ultimately, any conceivable real-world tax instrument is almost certain to be at least somewhat porous, at least if the tax instrument is levied with high enough rates to incentivize taxpayers to develop tax-gaming responses.[120] A more thorough discussion of the nature of tax-instrument porousness and tax-gaming responses must await the evaluation of the relevant empirical literatures in the forthcoming companion piece to this Article.[121] For now, it should suffice to understand that taxpayers have developed numerous tax-gaming techniques for reducing their liabilities under the existing U.S. income tax that do not primarily involve the taxpayers reducing their work effort or savings behaviors. Consequently, there is strong reason to infer that a substantial portion of the responsiveness to the existing U.S. income tax should constitute single-instrument distortions with respect to excise taxes and other possible supplementary tax instruments.

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[118] Shackelford, *supra* note __, at 127. *See also* Edward McCaffery, *A New Understanding of* Tax, 103 MICH. L. REV. 807, 886 ("any subsequent taxation on accumulated capital or its yield is easily avoided. Taxes on the yield to capital have become voluntary in important ways.").

[119] Gamage, *Analyzing*, supra note __.

[120] *Id.* at Part I.B.3.

[121] *Id.* at Part I.B.

2. More on the Importance of Analyzing the Marginal Cost of Public Funds

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, we must analyze for each available tax instrument the relative marginal cost of raising public funds (MCPF). I began to illustrate the importance of the tax-smoothing principle through an example in the introduction.[122] Yet that example did not fully explain the power of the tax-smoothing principle with respect to optimal-choice-of-tax-instruments analysis.

When evaluating the marginal distortionary costs of raising revenues or conducting distribution through a tax instrument, we must examine both the numerator and the denominator of MCPF ratio. The numerator measures the distortionary costs generated as a function of the relevant tax rates, and the denominator measures the revenues raised (or the distribution achieved) as a function of the relevant tax rates.[123]

Looking first to the numerator, the tax-smoothing principle implies that marginal distortionary costs should generally rise approximately with the square of the relevant (tax-exclusive) tax rates.[124] The more that a tax instrument is used to raise revenues or to conduct distribution, the higher the tax rates need to be set, which induces both a greater quantity of tax-reduction behaviors and a more costly set of tax-reduction behaviors at the margin. Thus, the single-instrument distortionary costs generated by a tax instrument should generally rise exponentially, implying that the marginal efficiency costs generated by raising an additional dollar of revenues through a tax instrument should typically greatly exceed the average distortionary costs of that tax instrument per dollar of overall revenues raised. Hence, again, 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.

Moreover, note that the tax-smoothing principle implies that marginal distortionary costs rise exponentially with the relevant *tax-exclusive* tax rates.[125] Yet labor-income-tax rates are usually expressed in tax-inclusive terms, and the same is also true for most forms of progressive consumption taxes.[126] Thus, as Repetti has previously explained: "At first glance, one might think that doubling the income tax rate form twenty-five percent to fifty percent will quadruple the excess burden. But in fact it will increase the excess burden 9 fold. To see this, we first convert the 25 percent tax inclusive rate to a

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[122] Notes __ and accompanying text *supra*.

[123] For simplicity, in the following paragraphs I will describe the denominator of the MCPF ratio in terms of revenues raised. The analysis in these paragraphs also applies for tax instruments designed to promote distribution directly (rather than for raising revenues), but the denominator should then be expressed in terms of the amount of distribution promoted (rather than the amount of revenues raised).

[124] Part I.A.1. *supra* and Part II.A.2. *infra*.

[125] Notes __ and accompanying text *infra*.

[126] For discussion of progressive consumption taxes, see Gamage, *Analyzing*, Part II.B.

33 percent tax exclusive rate and the 50 percent tax inclusive rate to a 100 percent tax exclusive rate. Note now that the tax exclusive rate has tripled."[127]

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 percent to 90 percent would thus result in a much larger exponential increase in distortionary costs than would increasing labor-income-tax rates from 25 percent to 50 percent.[128] Translated into tax-exclusive rates, a 60 percent tax-inclusive rate equals a 150 percent tax-exclusive rate and a 90 percent tax-inclusive rate equals a 900 percent tax-exclusive rate. Hence, increasing labor-income-tax rates from 60 percent to 90 percent is equivalent to increasing tax-exclusive rates six-fold. 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 percent to 90 percent should thus approximately generate thirty-six times the magnitude of distortionary costs.

Furthermore, proceeding to examine the denominator of the MCPF ratio, increasing a tax rate does not increase revenues raised in a linear fashion. Instead, the higher the tax rate, the more distortionary behaviors the tax rate induces. Because distortionary behaviors reduce revenues raised, doubling a tax rate will thus generally 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.[129] This revenue-maximizing point is sometimes referred to as the peak of the Laffer Curve.[130]

When tax rates are set well below their revenue-maximizing points, increasing a tax rate should generate additional revenues in a close to linear fashion. Yet the closer a tax rate is set to its revenue-maximizing point, the less additional revenues will be generated by increasing the tax rate, thus increasing the ratio of marginal distortionary costs per revenues raised. Indeed, as tax rates are increased close to their revenue-maximizing points, the ratio of marginal distortionary costs per revenues raised approaches infinity.[131]

Overall then, we 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 from a tax instrument should exponentially increase the distortionary costs generated by that tax instrument.[132] The more that a tax instrument is relied

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[127] Repetti, *supra* note __, at 99 ("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)").

[128] The numbers 60 and 90 percent in this example were chosen because they equate to round-number tax-exclusive rates.

[129] Mathias Trabandt & Harald Uhlig, *How Far Are We From the Slippery Slope? The Laffer Curve Revisited*, NBER WORKING PAPER 15343, at 2 (2009).

[130] *Id.*

[131] The reason for this is because the denominator of marginal incremental revenues raised from increasing the tax rate approaches zero.

[132] Moreover, because the marginal distortionary costs of raising revenues through a tax instrument should generally rise exponentially with the magnitude of revenues 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

upon to generate revenues, the greater the degree that raising additional revenues through that tax instrument will 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 the tax rates should generally increase distortionary costs much faster than with the square of the tax-inclusive rates.

3. The Sufficient-Statistics Framework as Applied to Luxury-Excise Taxes

We have now developed the basic building blocks of this Article's sufficient-statistics framework for analyzing optimal-choice-of-tax-instruments questions. To the extent that the assumptions of this Part hold, the only empirical parameters that we should need estimates for to answer optimal-choice-of-tax-instruments questions are: (a) the elasticities of overall single-instrument distortions with respect to adjusting the tax rates of each available tax instrument; (b) the elasticities of overall instrument-shifting distortions with respect to adjusting the gaps between the tax rates of each set of available tax instruments; (c) the distributional implications of adjusting the tax rates of each available tax instrument; and (d) the marginal overhead costs that would be generated by levying each available tax instrument and by adjusting the rates of each available tax instrument.[133]

These four sets of empirical parameters should function as sufficient statistics for answering optimal-choice-of-tax-instruments questions.[134] In contrast to approaches that rely on modeling specific forms of tax gaming, like double-distortion arguments, a properly developed sufficient-statistics framework avoids the need for analyzing specific techniques through which taxpayers might reduce their tax liabilities.[135] Instead, a sufficient-statistics framework can generate policy prescriptions based on elasticity estimates for aggregate categories of tax-reduction behaviors.[136] Accordingly, the four sets

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see with respect to multi-instrument responses. To the extent that two tax instruments induce multi-instrument responses, the more revenues a government raises through one of these tax instruments, the greater the marginal distortionary costs from the multi-instrument responses of raising revenues through the other tax instrument. Therefore, the marginal costs of raising an additional dollar of revenues through any particular tax instrument is a function of both the amount of revenues raised through that tax instrument and of the government's choices with respect to other tax instruments.

[133] Note that expressing the framework in this fashion abstracts from the composition of the tax base of each instrument. To the extent that it is possible to adjust base-calculation rules, any such adjustment that would have revenue or distributional implications must be treated as a separate tax instrument. However, to keep the analysis tractable, this Section treats the base-calculation rules as fixed for the purpose of comparing a labor-income tax to a luxury-excise tax. For further discussion, *see* notes ___ *infra* and accompanying text.

[134] With estimates for all of these parameters, and based on the pre-specified social-welfare weights for trading off between distribution and efficiency, we can completely specify the optimal choice of tax instruments (to the extent that the assumptions of this Part hold). Of course, we are unlikely to ever have complete empirical estimates for all four of these key parameters with respect to all possible permutations of tax instruments. Yet as the remainder of this Article and its forthcoming companion Article will demonstrate, we 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.

[135] Chetty, *Sufficient Statistics, supra* note ___, at 451-56.

[136] However, note 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. *Id.* at 466-67.

of key empirical parameters explained in this Part 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. As will be discussed in the forthcoming companion piece to this Article, these four sets of empirical parameters are capable of being estimated through empirical analysis.[137] Moreover, even in the absence of comprehensive empirical data, it is possible to generate some rough policy prescriptions based on logical inferences about the plausible settings of these key parameters or based on intuitions about the plausible bounds of these parameters derived from experience with real-world tax instruments.[138]

To illustrate, consider once again a government deciding whether to levy a new luxury-excise tax to supplement its existing labor-income tax. For simplicity, let us 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 revenues are to adjust the rates of either the labor-income tax or the luxury-excise tax.[139]

If the government opts to levy the new luxury-excise tax, the revenues so raised can be used to reduce the rates of the existing labor-income tax, thereby holding overall tax revenues constant. The question then becomes whether the government can promote more distribution at less efficiency cost by relying exclusively on the labor-income tax or by supplementing the labor-income tax with the new luxury-excise tax.[140] Based on the analysis of this Part, we can reach a preliminary answer 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 elasticities of single-instrument distortions for adjusting both the rates of the existing labor-income tax and 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 elasticities of 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? 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?

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[137] Gamage, *Analyzing, supra* note __.

[138] *See id* (conducting such analysis with respect to a number of major tax instruments); Part II.B. *infra* (conducting such analysis with respect to the use of legal rules to promote distribution).

[139] For further discussion, see notes __ and accompanying text *infra*.

[140] Alternatively, the government might hold distribution constant, thus making the question which mix of policy instruments is capable of raising more revenues at lower efficiency costs.

By answering these four questions, we can determine whether levying the new luxury-excise tax would 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 benefits from reducing distortionary costs to any increase in 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 labor-income tax induces any single-instrument or instrument-shifting distortions with respect 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, we cannot determine whether it is optimal to levy both tax instruments without some estimates for the key empirical parameters.[141] Thus, as this discussion should make clear, we cannot answer optimal-choice-of-tax-instruments questions based on theory alone. Instead, we need at least rough estimates for the key empirical parameters. If reliable estimates for these key parameters cannot be obtained from empirical studies, then we must use as inputs our best intuitions about the plausible bounds of these empirical parameters.[142]

It is worth emphasizing that this Part's demonstration that optimal-choice-of-tax-instruments questions cannot be answered based on theory alone is an important contribution to the academic literature in its own right. Double-distortion arguments conclude that optimal-choice-of-tax-instruments questions <u>can</u> be answered through theoretical analysis.[143] Because double-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 conclude that all distribution should be conducted through a labor-income or a progressive consumption tax, regardless of the elasticities of the single-instrument distortions generated by alternative tax instruments or the extent to which levying multiple tax instruments might affect overhead costs. In contrast, this Part demonstrates that it may be optimal to conduct distribution through additional tax instruments to supplement a labor-income or a consumption tax, and that optimal-choice-of-tax-

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[141] For instance, imagine if the luxury-excise tax was extremely easy to avoid. 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 labor-income tax. If levying the luxury-excise tax would substantially increase overhead costs, it might thus be optimal to levy only the labor-income tax.

[142] For further discussion on this point, *see* Gamage, *Analyzing, supra* note __, at Part I.B.5.

[143] Of course, the scholars advocating double-distortion arguments recognize the importance of administrative and implementation concerns and that double-distortion 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. *E.g.*, Joseph Bankman & David Weisbach, *The Superiority of an Ideal Consumption Tax Over An Ideal Income Tax*, 58 STANFORD L. REV. 1413, 1415 (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).

instruments questions cannot be answered without either estimates for the key empirical parameters or at least intuitions 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 will be discussed further below, when analyzing whether legal rules should be adjusted to promote distribution, there will often not be any particular reason to expect that doing so would increase overhead costs.[144] Thus, this Article's framework suggests that it is probably optimal to use these legal rules to promote distribution. Furthermore, only limited empirical information is needed in order for this Article's framework to produce ballpark estimates of the optimal extent to which these legal rules should be adjusted so as to promote distribution.[145]

Ultimately, it is difficult to demonstrate the usefulness of this Article's framework without first evaluating the relevant empirical literatures—a task taken up by the forthcoming companion piece to this Article.[146] Nevertheless, considering the dominance of the double-distortion approach within the existing tax theory and public finance literatures[147], it is important to fully 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.

II. EXPANDING AND APPLYING THE SUFFICIENT-STATISTICS FRAMEWORK

Many sophisticated advocates of double-distortion arguments have noted the importance of evaluating what they sometimes label as "administrative" issues when analyzing optimal-choice-of-tax instruments questions.[148] Yet most of the prior literature on these questions has, nonetheless, either operated at such a high level of theory 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.[149]

The previous Part developed a sufficient-statistics 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. Building on that analysis, this Part first evaluates whether this Article's framework is robust to relaxing its assumptions

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[144] Part II.B. *infra*.

[145] *Id.*

[146] Gamage, *Analyzing*, *supra* note __.

[147] Note __ *supra*.

[148] *E.g.*, Kaplow, The Theory, *supra* note __, at 90-94 & 411 ("The centrality of administrative and enforcement concerns is difficult to overstate...."); Bankman & Weisbach, *supra* note __, at 1414-15; David Weisbach, *The (Non)Taxation of Risk*, 58 TAX L. REV. 1, 22 (2004).

[149] David Gamage, *A Way Forward for Tax Law and Economics? A Response to Osoksky's "Frictions, Screening, and Tax Law Design"*, 61 BUFFALO L. REV. 189, 189 (2014) (citing Raskolnikov, *supra* note __).

and then considers the application of that framework to the question of whether legal rules should be designed to promote distribution.

A. Expanding the Framework by Relaxing Simplifying Assumptions

The analysis in Part I 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, Part I did not consider potential complications such as taxpayer heterogeneity other than in earning ability, non-separable preferences in labor and consumption, non-well-behaved utility or cost functions, externalities, tax-salience effects, political-economy considerations, cross elasticities, general-equilibrium effects, or non-welfarist considerations.[150]

This Section evaluates potential complications related to the first six of these: taxpayer heterogeneity other than in earning ability, preferences being non-separable in labor and consumption, non-well-behaved utility or cost functions, externalities, tax-salience effects, and political-economy considerations.[151] 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 arguments. 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.

1. Taxpayer Heterogeneity

Much of the existing economics-oriented literature challenging double-distortion arguments has focused on the implications of relaxing two assumptions related to taxpayer heterogeneity. 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

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[150] Note ___ *supra* and accompanying text.

[151] Space and scope constraints prevent me from evaluating the implications of relaxing the other assumptions underlying double-distortion models and 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. Nevertheless, the policy prescriptions generated through this Article's framework should have persuasive force for anyone interested in optimizing distribution and efficiency, even if these prescriptions may need to be modified somewhat in light of future work analyzing considerations related to relaxing this Article's assumptions.

their disposable income among commodities in the same manner regardless of the level of labor effort required to generate that level of income."[152]

It is because I have been following these two assumptions of double-distortion arguments that, up till 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 may sometimes 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.[153] 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.[154] The literature sometimes describes the practice of adjusting tax rates based on these characteristics as "tagging for ability."[155] As with leisure complements, when comparing the 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.[156] 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.[157] 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 I 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

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[152] Kaplow, *supra* note __, at 127.

[153] *See id.* at 102 & 137-41.

[154] *Id.* at 139-40.

[155] 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.* ("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.").

[156] Kaplow, The Theory, *supra* note __, at 137-41.

[157] 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).

substitutions may not fully operate as multi-instrument responses—but the framework can then be applied based on our best estimates for the relevant empirical parameters, accounting for the implications of leisure complements and tags for ability.[158]

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.[159] 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 which should be considered exceptions that prove the general rule.[160] 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 papers, Chris 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 making double-distortion arguments, such as Joseph Bankman, David Weisbach, and Louis Kaplow.[161] 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. 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—that we do not even know whether capital income should be taxed or subsidized.[162] 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.[163]

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

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[158] A virtue of this Article's proposed sufficient-statistics approach is that empirical studies can 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 can 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 because the sales tax somehow burdens leisure complements or tags for ability. For further discussion, see Gamage, *Analyzing*, Part I.B.4.

[159] Kaplow, The Theory, *supra* note __, at 136-41; Bankman & Weisbach, *supra* note __, at 1451-55.

[160] *E.g.*, Kaplow, The Theory, *supra* note __, at 136; Bankman & Weisbach, *supra* note __, at 1455.

[161] *E.g.*, Sanchirico, *Tax Eclecticism*, *supra* note __; Chris Sanchirico, *A Counter-Reply to Professors Bankman and Weisbach*, 64 TAX L. REV. 551 (2011); Chris Sanchirico, *Deconstructing the New Efficiency Rationale*, 86 CORNELL L. REV. 1003 (2001).

[162] Bankman & Weisbach, *supra* note __, at 1455.

[163] *E.g.*, Kaplow, The Theory, at 136-41; Bankman & Weisbach, *supra* note __, at 1416.

goods and 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.[164] But Sanchirico argues that we are essentially equally as clueless about how much we should rely on a labor-income tax.[165] 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.

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 revenues 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.[166] 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.

The approach developed in this Article should thus (hopefully) satisfy both sides of this debate. This Article focuses on the implications of tax gaming rather than on taxpayer heterogeneity, and the framework developed in Part I of this Article 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 relevant information about taxpayer heterogeneity, but the policy prescriptions offered are not based on the implications of taxpayer heterogeneity. 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;[167] the policy prescriptions developed below and in the forthcoming companion piece are thus offered as attempts at best estimates based on the available empirical evidence and on clearly stated intuitions 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.[168] Up to now, I have assumed that taxpayers face continuously increasing marginal costs to

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[164] Sanchirico, *Eclecticism, supra* note __, at 224.

[165] Chris William Sanchirico, *Optimal Tax Policy and Symmetries of Ignorance*, 66 TAX L. REV. 1 (2012).

[166] *See* Kaplow, *supra* note __, at 147.

[167] 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 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.

[168] Economists frequently consider functions to be "well behaved" if the functions are twice differentiable.

reducing their tax liabilities. The tax-smoothing principle follows from these assumptions.[169] This Subsection argues that these assumptions should generally hold, although there may be exceptions in particular cases. For now, I will 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.[170]

To begin with, at least near the margin, taxpayers must incur costs in order to reduce their tax liabilities through distortionary behaviors.[171] 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.[172] 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, we 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 (non-increasing) 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 Raj Chetty explains:[173]

> "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

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[169] See notes __ and accompanying text.

[170] I will evaluate the implications of relaxing this assumption in Part II.A.4 *infra*.

[171] By "costs," I mean any factor that might prevent a taxpayer from acting to reduce tax liabilities. So, for instance, both social norms and taxpayer's 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.

[172] 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 rates, because the taxpayer should use this strategy up to the legal limits, regardless of the setting of the tax rate.

[173] Chetty, *supra* note __, at 32. Chetty proceeds in that paper to analyze limitations to this result based on the possibility of externalities or salience effects, complications that I will discuss *infra*.

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."

At least near the margin then, taxpayers' costs of engaging in additional tax-reduction behaviors must approximately equal the marginal tax rate, regardless of the extent to which taxpayers' marginal distortionary behaviors consist of labor-to-leisure substitutions, tax avoidance, tax evasion, or any other tax-reduction techniques.

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, we can divide the costs that taxpayers incur to engage in distortionary behaviors 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.[174] "Sanction costs" refer to when taxpayers' expected utility is lower on account of the possibility of the taxpayers facing legal penalties as a result of the choices they make to reduce their tax liabilities.

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.[175] 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' non-tax preferences as little as possible.[176] Inherent in this maxim is the notion that clients should first engage in tax-minimization techniques that require the least sacrifice of non-tax preferences, proceeding to techniques that require greater sacrifice of non-tax preferences only once the less costly techniques are exhausted, and stopping at the point where the marginal cost from sacrificing non-tax 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.[177] 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'

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[174] The term "friction" is used to emphasize that taxpayers incur costs as a result of changing their behaviors—that substitutions are costly.

[175] 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."

[176] *See, e.g.,* Livingston & Gamage, *supra* note __, 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.").

[177] For discussion of types of frictions, *see, e.g.,* David Schizer, *Frictions as Constraints on Tax Planning,* 101 COLUM. L. REV. 1312, 1316-33 (2001); MYRON SHOLES, MARK WOLFSON, MERLE ERICKSON, EDWARD MAYDEW, AND TERRY SHEVLIN, TAXES AND BUSINESS STRATEGY: A PLANNING APPROACH (2nd ed., 2002).

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, many frictions operate on both of these dimensions.

All of these friction costs require taxpayers to sacrifice their non-tax preferences in order to reduce their tax liabilities.[178]   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.[179] Again, taxpayers can generally 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 should generally experience increasing marginal friction costs from engaging in tax-minimization behaviors.

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 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."[180] 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, U.S. tax law is governed by the economic-substance doctrine whereby the tax authority can argue that a transaction should be taxed based on its underlying economic substance rather than its form.[181] 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.

The most common approach for modeling tax-evasion behavior within the economics literature builds on the foundational Allingham-Sandmo model.[182] The most important parameters affecting whether taxpayers engage in tax evasion, under this model, are the level of sanctions and the probability of sanctions being imposed.[183] 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.[184] In my view, this is mistaken for two reasons. First, the IRS and other tax authorities do not select which taxpayers to audit completely

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[178] *See, e.g.,* Sholes et. al., *supra* note *id.,* at 170 ("We cannot emphasize too strongly the importance of these nontax costs in forging efficient tax plans.").

[179] Leigh Osofsky, *Who's Naughty and Who's Nice? Frictions, Screening, and Tax Law Design,* 61 BUFFALO L. REV. 1057, 1064-65 (2013).

[180] Calvin H. Johnson, *Play Money Basis: When is Nonrecourse Liability a Valid* Cost, 11 VA. TAX REV. 631, 633 n. 10. I convey this idea to my students with the alternative phrasing of "cows get fed, but pigs get slaughtered."

[181]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).

[182] For discussion, see, e.g., Agnar Sandmo, *The Theory of Tax Evasion: A Retrospective View,* 58 NAT TAX J. 643 (2005).

[183] *Id. at 646-48.*

[184] *Id.* at 648-49.

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 and detect the tax evasion and levy sanctions. Consider a few illustrative examples. First, a common strategy tax authorities use to determine whether taxpayers are failing to report income is to compare a taxpayers' reported income to her expenditures.[185] 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 conclude that a taxpayer is concealing income. Second, tax evasion techniques often 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.[186] Finally, when tax authorities suspect that a taxpayer is engaging in a tax-evasion transaction, the tax authorities will often scrutinize other components of the taxpayers' returns for both the tax year in question and also for prior and future tax years. Therefore, a taxpayer who has already engaged in some level of tax evasion, and is considering whether to evade further, must consider that additional tax-evasion behavior could draw attention to the tax evasion already engaged in.[187]

For all these reasons, the probability of tax evasion being sanctioned should generally increase with the aggressiveness of a taxpayer's tax-evasion behavior. As with friction costs, then, taxpayers should generally 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. As a result, taxpayers should generally experience increasing marginal expected sanction costs.

Combining friction costs and sanction costs, taxpayers frequently take steps to reduce the probability of their tax-evasion behaviors being detected. For instance, taxpayers engaging in aggressive tax-shelter transactions often use excessively complicated organization forms or otherwise complicate their transactions so as to make it more difficult for the tax authority to understand that the transactions are tax motivated.[188] Taxpayers may thus be able to reduce expected sanction costs by incurring friction costs. But, again, taxpayers should generally start with those tax-reduction behaviors that involve less overall costs, proceeding to more costly tax-reduction behaviors only once the less costly behaviors have been exhausted.

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[185] Taxpayers whose income is subject to reporting will often 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.

[186] Mark P. Gergen, *Uncertainty and Tax Enforcement: A Case For Moderate Fault-Based* Penalties, 64 TAX L. REV 453, 459-61 (2011).

[187] Eduardo Engel & James R. Hines, *Understanding Tax Evasion Dynamics,* NBER WORKING PAPER 6903 (1999).

[188] Livingston & Gamage, *supra* note ___, at 672.

Overall, then, examining the nature of both friction costs and sanctions 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, we can infer that distortionary costs rise exponentially with the relevant marginal tax rates.[189] For these reasons, examining the nature of distortionary costs further demonstrates that the tax-smoothing principle should generally 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.[190] The standard response is that while 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 conclude that, as a general matter, taxpayers' marginal costs to engaging in tax-reduction behaviors should mostly rise in an approximately continuous fashion, such that the tax-smoothing principle should generally apply in most policy contexts.

Before proceeding, it may be worth noting 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."[191] Economists mostly only invoke the tax-smoothing principle in order to explain the intuitions related to the envelope theorem to less mathematically sophisticated audiences.

The basic intuition underlying the envelope theorem is that levying infinitesimally small taxes generates zero distortionary costs but can raise positive revenues (albeit, infinitesimally small amounts of positive revenues). The envelope theorem relies on fewer assumptions and is much 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 with regard to infinitesimally small changes near the margin. For this Article's

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[189] Notes __ *supra* and accompanying text.

[190] For a sample discussion, *see* Kaplow, The Theory, *supra* note __, at 73-74.

[191] For discussion of the enveloped theorem, see, e.g., Hendren, *supra* note __, at 3; Sanchirico, *Tax Eclecticism*, *supra* note __, at 215-16.

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.[192]

Although the tax-smoothing principle relies on stronger assumptions than does the envelope theorem, as this Subsection has demonstrated, the assumptions needed for the tax-smoothing theorem to generally hold are rather modest. 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 should generally 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.[193]

3. Externalities

Most economic analyses assume that the private costs of individual actions equals 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 levels of taxation and that decisions producing positive externalities should be subject to lower levels of taxation (or even subsidized).[194]

Several scholars have contended that tax-gaming distortions may in some instances produce externalities.[195] 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.[196]

However, note that many tax-reduction techniques involve inflating the deductions claimed for charitable contributions or otherwise taking deductions for charitable contributions of dubious social value.[197] We should thus not assume that all charitable contribution deductions generate significant positive externalities. The same is even more true for most other tax incentives purposefully created by

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[192] For instance, Logue and Avraham dismiss Sanchirico's analysis based on a version of the enveloped theorem for precisely this reason—that the envelope theorem cannot be used to meaningful 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).

[193] Note __ *supra*.

[194] David Gamage, *Taxing Political Donations: The Case for Corrective Taxes in Campaign Finance*, 113 YALE L.J. 1283, 1292 (2004).

[195] Saez, Slemrod, & Giertz, *supra* note __, at 15-16.

[196] *Id.* at 15.

[197] *See* Livingston & Gamage, *supra* note __, at 442-45 (describing tax-gaming transactions based on exploiting the rules for charitable contribution deductions).

the government – commonly called "tax expenditures."[198] 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.[199]

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.[200] These transfers are sometimes referred to as "fiscal externalities."[201] For instance, fines levied for tax evasion represent private costs to the taxpayers, but not social costs, because the money paid by taxpayers is received by the government.[202]

Yet 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 overhead costs the government may need to incur in order to enforce the tax system. Taxpayers' decision making 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.[203] Considering that—at least with respect to high-income taxpayers—the IRS is often willing to cancel fines for tax evasion in settlement negotiations, in order to reduce the government's litigation costs, there is reason to infer that the negative fiscal externalities related to enforcement costs probably exceed positive fiscal externalities related to assessed fines being transfers.[204]

Perhaps 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.[205] Taxpayers engaging in avoidance behaviors may also foster an industry for advising and facilitating aggressive tax-avoidance transactions which can lower other taxpayers' costs to engaging in

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[198] For discussion, *see, e.g.,* Edward Kleinbard, *The Congress Within the Congress, How Tax Expenditures Distort Our Budget and Our Political Process,* 36 OHIO NORTHERN L. REV. 1 (2010).

[199] *See* Dennis J. Ventry, Jr., *The Accidental Deduction: A History and Critique of the Tax Subsidy for Mortgage Interest,* 73 LAW & CONTEMPORARY PROBLEMS 233, 278 (2010) ("The economic case against the [home mortgage interest deduction], strengthening over fifty years, is indisputable").

[200] Saez, Slemrod, & Giertz, *supra* note __, at 10-11.

[201] *Id.*

[202] Chetty, *Taxable Income, supra* note __, at 33.

[203] Similar to prior scholars labeling fines and tax penalties as positive "fiscal externalities", any effect of taxpayers' evasion behaviors on increasing the government's overhead 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 which must be maintained at the government's expense. In all of these cases, the social costs of taxpayers' decisions exceeds the private costs.

[204] *See, e.g.,* William A. Drennan, *Strict Liability and Tax Penalties,* 62 OKLAHOMA L. REV. 1, 6 & 17-21 (2009) ("Signs indicate that the government seldom imposes tax penalties, and tax dodging is rampant.").

In further support of this inference, the literature suggests that many taxpayers are highly averse to being challenged by the tax authority, irrespective of the probability of fines being levied. The most significant components of sanction costs thus probably involve the psychic costs and time lost from being engaged in disputes with the tax authority, and possibly also from social stigma and the (small) possibility of imprisonment.

[205] Susan Cleary Morse, Stewart Karlinsky, and Joseph Bankman, *Cash Businesses and Tax Evasion,* 20 STANFORD L. AND POLICY REV. 37, 40-41 & 65-66 (2009).

tax avoidance. 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 of the categories of distortionary behaviors create 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.[206] 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.[207] Based on the existing empirical and theoretical literatures, I see no convincing reason for concluding that as a general rule either positive or negative externalities are likely to strongly dominate at the margin with respect to any of the categories of social welfare costs. But the prescriptions generated by this Article's framework can easily be adjusted to account for different intuitions or for future empirical evidence suggesting otherwise.

4. Salience Effects

Most economic analyses assume that individuals perfectly optimize in response to the incentives created by taxation.[208] 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.[209]

Based on evidence suggesting that many taxpayers perceive the penalties for tax evasion as higher than they actually are, Raj Chetty has suggested that these penalties may be more than fully salient with respect to decisions to engage in tax evasion.[210] 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.

Chetty's argument is provocative, but considering that fines and penalties are probably not an especially important component of the costs of engaging in tax evasion in practice,[211] I am skeptical that Chetty's argument has first-order real-world significance. 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 implications

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[206] Raj Chetty has developed one approach for adjusting the information from taxable income elasticities to account for externalities. Chetty, *supra* note __, at 15-16.

[207] 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.*

[208] Raj Chetty, Adam Looney, & Kory Kroft, *Salience and Taxation: Theory and Evidence*, 99 AMERICAN ECONOMIC REVIEW 1145, 1145 (2009).

[209] For a review and discussion of this literature, see Gamage & Shanske, *supra* note __.

[210] *Chetty, Taxable Income, supra* note __, at 39-41.

[211] Note __ *supra.*

of tax salience effects for optimal-choice-of-tax-instruments questions.[212] Nevertheless, as with externalities, if others' intuitions or future empirical work suggests otherwise, 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.[213] 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.[214]

As an aside, it is perhaps worth noting an aspect of salience effects that may strengthen the case for employing multiple distributive instruments rather than relying exclusively on a labor-income or consumption tax for distribution.[215] 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.[216] To the extent this is so, all tax-reduction behaviors might function at least partially as single-instrument distortions. If employing multiple tax instruments reduces the salience of tax incentives even with respect to techniques capable of reducing liabilities for all of the tax instruments, then there may not be any truly multi-instrument distortions. 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,[217] I do not incorporate the implications of this phenomenon into the policy prescriptions offered below and in the forthcoming companion piece to this Article. In contexts where this salience effect is relevant, the case for employing multiple tax instruments may thus be even stronger than my analysis suggests.

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. Nevertheless, for this Article's project, it is important to consider why

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[212] *See* David Gamage, *On the Future of Tax Salience Scholarship: Operative Mechanisms and Limiting Factors,* 41 FLORIDA STATE L. REV. 173 (2013) (discussing the limits of tax salience scholarship).
[213] *Chetty, Taxable Income, supra* note __, at 39-47.
[214] *Id.* [Author's note: Joel Slemrod tells me that he refutes this argument of Chetty's in his forthcoming book. I will consider revising this paragraph once I have access to Slemrod's book and can assess his argument.]
[215] All of the salience effects discussed above relate to market salience, as defined in Gamage & Shanske, *supra* note __, at 24. Political-salience effects may also be important for optimal-tax-mix questions if we expand the analysis to incorporate political-economy concerns. 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* Part II.A.5 *infra*). Considering the later, 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 these aspects of optimal-tax-mix problems 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 CALIFORNIA L. REV. 749, 792-801 (2010).
[216] Gamage & Shanske, *supra* note __, at 27-31.
[217] Gamage, *Future, supra* note __.

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. Similarly, it stands to reason that administrative practicality prevents governments from preventing numerous other tax-gaming responses, including the more idiosyncratic gaming techniques that are more likely to represent single-instrument responses.[218] "Income" is an inherently nebulous concept and modern income taxes are thus plagued by numerous line-drawing and valuation problems that lack easy resolutions. Thus, just as governments find it administratively impractical 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. 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, we might wonder whether governments in practice would just build the same special interest giveaways into any new, supplemental tax instruments levied.[219]

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 levying 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 may often 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.[220]

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[218] Browsing any casebook on taxation reveals numerous tax-gaming transactions that governments do not prevent due to the limits of tax administration.

[219] I owe Louis Kaplow thanks for bringing this concern to my attention.

[220] For instance, because the U.S. income-tax rules for capitalization, depreciation, and amortization, involve numerous line-drawing problems wherein somewhat arbitrary lines need to be drawn, interest groups have been able to develop and maintain massive tax preferences within these rules. It seems unlikely that if the U.S. were to wholly or partially replace its income tax with another tax system, that would not need these sorts of rules, that 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

Overall, then, it is important to note 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. Yet, considering that a large portion of tax-gaming responses likely result from the limits of tax administration, and that the framing of different tax instruments may often make tax instruments differentially susceptible to special interest provisions, this caveat should 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."[221] 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.[222]

B. Applying the Framework to Whether Legal Rules Should be Designed to Promote Distribution

As the previous Section explained, the sufficient-statistics framework developed in Part I should generally be robust to relaxing its simplifying assumptions. To the extent that these assumptions do not hold, it may be necessary to adjust the policy prescriptions generated by the framework in particular policy contexts. But the prescriptions generated by this Article's framework should still be relevant for anyone interested in optimizing the tradeoff amongst distribution and efficiency, at least as baselines.

This Article's framework is easiest to apply when evaluating incremental reforms, rather than fundamental reforms.[223] It is thus useful to start with the question of whether legal rules should be designed to promote distribution. 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 distribution, or whether the government should instead 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 is typically set primarily for the purpose of balancing the goal of incentivizing research and discovery against the goal of not overly restricting use.[224] Yet the setting of the duration of patent protections may also have significant

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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.

[221] Note __ *supra*.

[222] It is important to distinguish here between: (a) tax-gaming opportunities that the legislature purposefully creates at the time of initial tax lawmaking, and (b) 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 special-interest provisions.

[223] *See* notes __ and accompanying text *infra*.

[224] *See, e.g.,* Suzanne Scotchmer, Innovation and Incentives at 98 (MIT Press, 2004); Amy Kapczynski & Talha Syed, *The Continuum of Excludability and the Limits of Patents,* 122 Yale L.J. 1900, 1904 (2013).

distributional implications, and thus may also function partially as a tax instrument.[225] Consequently, we can ask: whether it is optimal to set the duration of patent protections at the level that most efficiently achieves the government's regulatory goals? Or whether, instead, it is optimal for the government 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.[226] 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 critiqued in Part I of this Article). Designing a legal rule to promote distribution will by definition create deadweight 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."[227] Therefore, Kaplow and Shavell argue that designing legal rules to promote distribution induces the double-distortion of both labor-to-leisure substitutions and of "the cost directly associated with the inefficiency of the legal rules".[228] They thus conclude that it is strictly superior to conduct distribution through the setting of tax rates, 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 promote additional distribution would generate deadweight 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 heterogeneity,[229] as discussed in Part II.A.1 of this Article. 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 agree that legal rules should be designed so as

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[225] *See, e.g.,* Angus C. Chu & Shin-Kun Peng, *International Intellectual Property Rights: Effects on Growth, Welfare and Income Inequality,* MPRA PAPER NO. 2253 at 13-22 (2010); Amy Kapczynski, *The Cost of Price: why and How To Get Beyond Intellectual Property Internalism,* 59 UCLA L. REV. 970, 993-1006 (2012).

[226] Louis Kaplow and Steven Shavell, *Why the Legal System Is Less Efficient Than the Income Tax in Redistributing Income,* 23 J. LEGAL STUD. 667 (1994); Louis Kaplow and 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 (2000).

This argument also applies to the use of tax-base calculation rules to promote distribution, as Kaplow's and Shavell's argument implies that distribution should be exclusively promoted through the setting of tax rates (again, with limited exceptions). Weisbach, *Line Drawing, supra* note __, at 59-61.

[226] Weisbach, *Line Drawing, supra* note __, at 59-61.

[227] Kaplow & Shavell, *Clarifying, supra* note __, at 823.

[228] *Id.* at 824.

[229] *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 (2004); Chris Sanchirico, *Taxes Versus Legal Rules as Instruments for Equity: A More Equitable View,* 29 J. OF LEGAL STUD. 797 (2000).

to take advantage of this information to promote distribution.[230] 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."[231]

Other scholars have, of course, made a variety of non-welfarist arguments against Kaplow and Shavell's position.[232] Also, within a welfarist framework, Christine Jolls has questioned on salience grounds whether distribution through legal rules really induces the same labor-to-leisure distortions as does a labor-income tax.[233] Nevertheless, Kaplow and Shavell's position "has become the new conventional wisdom,"[234] at least amongst economics-oriented legal scholars.

In contrast to this conventional wisdom—and even factoring out non-welfarist considerations, taxpayer heterogeneity, and salience effects—this Article's framework suggests that many legal rules should be designed to promote distribution. 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 distribution, just as with respect to luxury excise taxes.[235] For instance, adjusting the duration of patent protections so as to promote distribution should not directly incentivize taxpayers to conceal their incomes from the tax authority or to engage in 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 incentive the claiming of artificial or inflated deductions or exclusions or related forms of tax gaming.[236]

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[230] Kaplow & Shavell, *Clarifying, supra* note __, at 821-22.

[231] *Id.* For further discussion of this topic and of Sanchirico's critique of Kaplow and Shavell, *see* Part II.A.1. *supra.*

[232] *E.g.,* Richard S. Markovits, *Why Kaplow and Shavell's "Double-Distortion Argument" Articles Are Wrong,* 13 Geo. Mason. L. Rev. 511 (2005).

[233] Christine Jolls, *Behavioral Economics Analysis of Redistributive Legal Rules,* 51 Vand. L. Rev. 1653 (1998). Kyle Logue and Ronen Avraham have also argued that there may be limited circumstances in which taxpayer heterogeneity or salience effects may justify designing legal rules to promote distribution, although they conclude that the tax system probably has a "comparative advantage" at promoting most forms of distribution. Logue & Avraham, *supra* note __, at 165-206.

[234] Avraham, Fortus, & Logue, *supra* note __, at 1126.

[235] *See* Part I.C.1. *supra.*

[236] *See* note __ and Part I *supra.* 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 distribution. 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 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.

Consequently, designing legal rules so as to promote marginal amounts of distribution, rather than relying exclusively on the setting of tax rates, should reduce the overall magnitude of distortionary costs.[237] To the extent that the responsiveness to the tax system consists of single-instrument distortions with respect to designing a legal rule to promote distribution, adjusting that legal rule to promote at least some amount of distribution 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 adjusted so as to promote distribution. Even if these rules are not used to promote distribution, then, the government will need to incur administrative 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 distribution.[238] 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 adjusted to promote distribution.

Examining the four key sets of empirical parameters for applying this Article's framework, there is thus no particular reason to expect that either relying on the tax system or on the design of legal rules to promote marginal amounts of distribution should generate larger marginal overhead costs.[239] 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 distribution. 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.[240] 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 distribution, as compared to relying on tax rates.

For simplicity, then, let us assume (as seems plausible) that neither overhead costs nor instrument-shifting distortions present first-order concerns for the question of whether a government

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[237] 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.

[238] *See* Part I.B.4. *supra*.

[239] 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 distribution.

[240] Saez, Slemrod, & Giertz, *supra* note __, at 10-13.

should consider distribution in the design of legal rules.[241] With respect to considering whether a particular legal rule should be designed to promote distribution, this Article's framework thus boils down to two questions:[242]

- First, what is the elasticity of 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 distribution, for both of the tax instruments to be considered.[243]

By definition, the optimal government policy is that which maximizes the tradeoff amongst distribution and efficiency by promoting distribution at the lowest possible efficiency costs.[244] The tax system can be used to promote marginal amounts of distribution 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 can similarly be used to promote distribution 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 distribution can be expected to rise exponentially with the amount of distribution promoted.[245] Consequently, the optimal government policy is to adjust the use of each tax instrument until the marginal efficiency costs of promoting distribution are equal for all of the tax instruments levied.

In their review of the empirical literature on taxpayer responsiveness, Emmanuel Saez, Joel Slemrod, and Seth Giertz, estimate that the overall marginal distortionary costs of raising revenues through the U.S. income tax are around twenty percent of the marginal dollar of revenue raised through an across-the-board tax increase.[246] They further estimate that the overall marginal distortionary costs of raising revenues from the top one percent of income earners are around thirty-four percent of the marginal dollar of revenues raised from these taxpayers.[247] The forthcoming companion paper to this

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[241] 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.

[242] The other two questions elaborated in Part I.C.3. *infra* can be factored out based on the assumptions that neither marginal overhead costs nor instrument-shifting distortions are first-order concerns.

[243] The marginal efficiency costs of promoting distribution is an expression for the marginal cost of public funds (MCPF), when the goal is to promote distribution, rather than to raise revenues. The overall MCPF of each tax instrument is thus partly a function of the government's use of other tax instruments. But 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.

[244] Notes __ and accompanying text *supra*.

[245] Notes __ and accompanying text *supra*.

[246] Saez, Slemrod, & Giertz, *supra* note __, 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.").

[247] *Id.*

Article will argue that a substantial portion of these marginal distortionary costs probably arise from single-instrument responses with respect to excise taxes (and by extension, also with respect to designing legal rules to promote distribution).[248]

We can thus roughly bound the optimal extent to which legal rules should be used to promote distribution. 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 distribution until the relative marginal efficiency costs of promoting further distribution exceed a substantial portion of twenty percent of the marginal dollar-equivalent of resources transferred. Similarly, for a legal rule that can be adjusted to benefit the lowest-income taxpayers at the expense of the top one percent of income earners, we might estimate that the legal rule should be adjusted to promote incremental distribution until the relative marginal efficiency costs of promoting further distribution exceed a substantial portion of thirty-four percent of the marginal dollar-equivalent of resources transferred.

What is a "substantial portion"? The answer depends on the extent to which the empirical literature's estimates for the overall marginal distortionary costs of adjusting tax rates arise from single-instrument distortions as opposed to from multi-instrument distortions. The forthcoming companion paper to this Article will evaluate the empirical literature relevant to answering this question, and will also propose how future empirical work might facilitate our answering this question more precisely. For now, we can say that it should be optimal to adjust legal rules so as to promote incremental distribution until the relative marginal efficiency costs of promoting further distribution grow to equal the relative marginal efficiency costs of instead promoting that distribution through the tax system.[249]

This result is offered only as a baseline. There are numerous complications that might suggest adjusting this baseline prescription in particular policy contexts.[250] For instance, non-welfarist 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.[251] Similarly, institutional considerations related to the proper scope of the relevant decision-maker's discretion might suggest departing from the baselines prescriptions generated by this Article's framework in certain policy contexts.[252] Also, it might in some cases be worth considering whether attempting to

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[248] Gamage, *Analyzing*, Part I.B.

[249] In other words, we can say that 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.

[250] *See* Part II.A. *supra*.

[251] Note ___ and accompanying text *supra*.

[252] 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 social welfare function underlying Congressional decisions regarding the tradeoff amongst 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

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. Nevertheless, the capability to even roughly bound the optimal extent to which specific legal rules should be used to promote distribution, even as a baseline, should begin to demonstrate the advantages of this Article's framework over the approaches in the prior literature.[253]

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.[254] Applying this Article's framework suggests that it may be optimal to solve these line-drawing problems by considering distributional implications, at least for those problems in which the choice amongst possible settings for the legal rules has significant distributional implications and unclear efficiency implications.

In a sense, when we lack the quantitative empirical information needed to make more precise prescriptions, 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 (read: distribution)[255], efficiency, and administrability.[256] In these settings, the key implication of this Article's framework is that distribution should indeed be a goal in the design of legal rules, contrary to the implications of double-distortion arguments. In some policy contexts, the empirical literature may develop to facilitate making quantitative estimates of the optimal extent to which specific legal rules should be adjusted to promote distribution. But even in contexts where this is not currently possible, it may be that lawyerly training enables a balancing of non-quantifiable concerns—in light of the empirical information that is available and intuitions about the plausible settings of the other key empirical parameters—based on the exercise of lawyerly "practical wisdom".[257]

Louis Kaplow has argued that an advantage of the double-distortion argument that all distribution should be promoted through the tax system is that this approach facilitates a productive division of labor amongst tax and other legal scholars.[258] 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 that legal rules should depart from their efficiency-maximizing settings so as to promote incremental distribution up to the point where the marginal efficiency costs of doing so equal the costs of instead promoting that distribution through the tax system.

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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.

[253] The forthcoming companion paper to this Article will further elaborate the advantages of this Article's framework.

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[255] In this traditional tax-policy approach, "equity" is typically thought to include both horizontal equity (treating similarly situated taxpayers similarly) and vertical equity (distribution). Some modern scholarship has argued against horizontal equity being a separate criterion, which effectively collapses equity to just being distribution. For further discussion, see...

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[257] Kronman. *See also* Gamage, *Analyzing, supra* note __, at Part I.B.5.

[258] Kaplow, <u>The Theory</u>, *supra* note __, at 3-4.

However, in light of tax-gaming responses and the tax-smoothing principle, economic theory provides no justification for prioritizing efficiency over distribution. Were governments to prioritize efficiency maximization over distribution, all revenues should be raised through lump-sum taxes.[259] That governments instead rely on less efficient alternatives like income and consumption taxes is generally thought to imply that governments prioritize distribution over pure efficiency maximization.[260] If this is so for tax-system design, then should it not also be so for the design of legal rules?

Certainly, not all legal rules are capable of being adjusted to promote significant amounts of distribution. And other legal rules might be so inefficient at promoting distribution so as to make it not worth analysts' time and effort to determine how to adjust these legal rules. Nevertheless, the literature suggests that at least some legal rules might be used to promote significant amounts of distribution.[261] Seeing as governments are already incurring the fixed overhead costs needed to establish these legal rules in order to achieve the rules' regulatory purposes, why should governments not take advantage of these legal rules so as to better optimize the tradeoff amongst distribution and efficiency?

Based on the dominant double-distortion approach,[262] the prior literature generally 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 and similar transactions that operate as multi-instrument distortions with respect to all potential tax instruments.[263] This Article's framework demonstrates the importance of instead evaluating the extent to which this responsiveness might operate as single-instrument distortions, and then analyzing that responsiveness in light of the tax-smoothing principle.

Through this analysis, this Article's framework reveals that governments may have much greater capacity to raise revenues and to promote distribution at lower efficiency costs than is generally recognized. We should not leave this "money on the table" merely to simplify the scholarly division of labor.[264]

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[259] Notes __ and accompanying text *supra*.

[260] *Id.*

[261] *See, e.g.,* Logue & Avraham, *supra* note __, at 181 ("it is wrong to assert that redistribution through contract-based legal rules is impossible or infeasible.").

[262] Note __ and accompanying text *supra*.

[263] *E.g.,* Feldstein, *supra* note __. For further discussion, see Gamage, *Analyzing*, Part I.B.1.

[264] The "money on the table" expression here is meant in the proverbial sense.

     Moreover, this Article's framework does suggest a productive division of labor amongst 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 who the resources are transferred from and on who the resources are transferred to. Legal scholars can then study the optimal design of legal rules to determine the settings for these rules that promote distribution 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 dominant value in making policy prescriptions.

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 typically analyze idealized versions of tax instruments—such as by assuming that labor-to-leisure distortions are the sole technique taxpayers can use to reduce their labor-income-tax liabilities.[265] Many scholars making double-distortion arguments recognize the importance of incorporating what they often label as "administrative" or "implementation" concerns into the analysis.[266] Yet there are at least two reasons why these scholars have nevertheless based their analyses on idealized versions of tax instruments. 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'....";[267] only in recent years have economists started to incorporate a wider variety of tax-reduction techniques into core optimal-tax models,[268] and this recent work has simply not yet been fully integrated into the double-distortion framework.[269] The second reason is that tax-reduction techniques that are more contingent on the details of the tax system—such as most forms of tax gaming—can potentially be thwarted by improving the design of the tax system. The advantage of analyzing idealized versions of tax instruments, then, is that the lessons learned can potentially be applied more generally rather than being dependent on how tax instruments are implemented.

The framework developed in this Article is thus easiest to apply when analyzing incremental reforms to existing tax systems (such as when designing legal rules to promote distribution, while holding the structure of the tax system constant). Within these contexts, it is typically more useful to evaluate the implications of how taxpayers respond to the existing labor-income tax, rather than how taxpayers might respond to an idealized labor-income tax. Certainly, it is important to consider the possibility of improving the existing labor-income tax as a potential alternative to designing other policy instruments so as to make up for the flaws of the existing labor-income tax. But when evaluating incremental reforms, analyzing the existing labor-income tax should usually be a better starting point than analyzing an idealized version.

In addition to analyzing incremental reforms, this Article's framework can also complement double-distortion models when evaluating fundamental tax reforms. Less can be learned in this context from analyzing how taxpayers respond to existing real-world tax instruments, but insight can still be

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[265] *See, e.g.,* Bankman & Weisbach, *The Superiority,* 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.").

[266] *Id.*; Kaplow, The Theory, *supra* note __, at 90-94.

[267] Joel Slemrod, *The Consequences of Taxation,* 23 SOCIAL PHILOSOPHY AND POLICY 73, 73 (2006).

[268] *Id.*

[269] 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, *Sufficient Statistics, supra* note __, at 467-73; Gamage, *Analyzing,* Part I.B..

gained by triangulating between considering how taxpayers might respond to idealized versions of tax instruments and studies of how taxpayers respond to the closest real-world equivalents of these tax instruments. Ultimately, it is unlikely to be possible to design tax instruments that are completely immune to tax-gaming responses. The forthcoming companion paper to this Article will thus apply this Article's framework to evaluate several major real-world tax policy debates. That analysis will suggest rather different policy conclusions from traditional double-distortion arguments.