

# ON THE FUTURE OF TAX SALIENCE SCHOLARSHIP: OPERATIVE MECHANISMS AND LIMITING FACTORS

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## I. INTRODUCTION

As we celebrate the centennial anniversary of the U.S. federal income tax and look forward to the next hundred years, it is worth reflecting on the nature of tax scholarship. The U.S. tax system is incomprehensibly complex. Any attempt to assess the U.S. tax system must therefore rely on applying some theoretical frame. Which frames are chosen, and how they are applied, potentially has first-order consequences for how we understand the role of the income tax as a central component of the U.S. system of governance.

The two most important frames that have been used to assess the income tax over the past hundred years are comprehensive tax base theory<sup>1</sup> and optimal tax theory.<sup>2</sup> Both of these approaches have

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1. See, e.g., Boris I. Bittker, *A "Comprehensive Tax Base" as a Goal of Income Tax Reform*, 80 HARV. L. REV. 925 (1967) (discussing comprehensive tax base theory); Joseph A. Pechman, *Comprehensive Income Taxation: A Comment*, 81 HARV. L. REV. 63 (1967) (same).

2. See, e.g., LOUIS KAPLOW, *THE THEORY OF TAXATION AND PUBLIC ECONOMICS* (2008) (providing an overview of optimal tax theory); BERNARD SALANIÉ, *THE ECONOMICS OF TAX-*

generated powerful insights. Yet both of these approaches also have serious limitations.<sup>3</sup>

Over the past few decades, optimal tax theory has come to dominate tax scholarship in both economics departments and elite law schools. A number of strands of recent scholarship have thus attempted to address some of the limitations of optimal tax theory as it has traditionally been employed. One of the most prominent of these recent scholarly trends is the study of questions related to tax salience.<sup>4</sup>

In a recent Article, Darien Shanske and I reviewed the developing literature on tax salience.<sup>5</sup> When we began the project that led to that article, we were hopeful that the literature on tax salience could be applied to illuminate a number of conundrums plaguing both federal and state and local tax policy. However, we ultimately concluded that the literature on tax salience is not yet sufficiently developed to be applied in making concrete recommendations for practical tax policy problems.

Building on that article, this Essay—written for Florida State University's symposium on the 100th anniversary of the federal income tax—evaluates how the literature on tax salience should be advanced in order for it to guide more effectively tax policy over the coming decades. In particular, this Essay analyzes potential limiting factors to the operation of observed tax salience effects.

To date, most of the empirical literature on tax salience has focused on demonstrating the existence of specific tax salience effects within particular contexts. Building on these empirical studies, most of the normative scholarship engaging with tax salience has been based on extrapolating from the discrete instances of tax salience ef-

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ATION (2d ed. 2011) (same).

3. For discussions of the limitations of optimal tax theory (as it has traditionally been employed), see, for example, James Alm, *What is an "Optimal" Tax System?*, in *TAX POLICY IN THE REAL WORLD* 363 (Joel Slemrod ed., 1999); Christopher Heady, *Optimal Taxation as a Guide to Tax Policy: A Survey*, 14 *FISCAL STUD.* 15 (1993); Alex Raskolnikov, *Accepting the Limits of Tax Law and Economics*, 98 *CORNELL L. REV.* 523 (2013).

4. For a definition of tax salience, see David Gamage & Darien Shanske, *Three Essays on Tax Salience: Market Salience and Political Salience*, 65 *TAX L. REV.* 19, 23 (2011) ("As we use the term, 'tax salience' refers to the extent to which taxpayers account for the costs imposed by taxation when the taxpayers make decisions or judgments. The concept of tax salience is thus meant to abstract from taxpayers' values or preferences with respect to taxation—from how the taxpayers might wish to account for tax costs were they not subject to cognitive limitations. Our concept of tax salience would be meaningless in a world of complete information in which taxpayers had unlimited time and resources and were not subject to any cognitive biases. Thus, our concept of tax salience is meant to capture any systematic differences between how taxpayers would perceive the costs of taxation in this hypothetical world of perfect economic rationality and how taxpayers actually perceive the costs of taxation in the real world." (footnote omitted)).

5. *Id.*

fects observed in these empirical studies. Only a handful of scholars have attempted to develop more systematic theories for how tax salience might operate.<sup>6</sup> Yet in the absence of more systematic theories, we cannot predict with any confidence how tax salience effects might operate outside of the specific empirical contexts in which they have been observed. Only after analyzing potential operative mechanisms and limiting factors should we apply the developing literature on tax salience to broad questions of tax policy.

I should note at the outset that the purpose of this Essay is *not* to critique the existing scholarship on tax salience. Conducting empirical studies to demonstrate the existence of tax salience effects within specific contexts is a necessary first step for developing more general theories.<sup>7</sup> Rather, the intent of this Essay is to point out that more is needed before the tax salience literature can offer a useful guide with respect to the complexities of real-world policy.

Most importantly, normative scholars should not assume that a tax salience effect that is demonstrated to occur within one set of particular circumstances will necessarily manifest when circumstances differ. This Essay evaluates potential limiting factors to the operation of tax salience effects, such as the size of the tax liability, taxpayers learning from experience, and taxpayers' aversion to being manipulated. These limiting factors have the potential to prevent tax salience effects that are shown to occur in one set of circumstances from manifesting in scenarios where these limiting factors are strongly present.

Ultimately, in order to develop a broader theory capable of predicting the conditions under which tax salience effects are likely to prove important, we must develop a better understanding of the operative mechanisms underlying tax salience. To this end, the literature on tax salience must move beyond offering a list of biases and must seek instead to provide a theory of cognition (or of social reasoning or of whatever else might underlie observed tax salience effects).

This Essay proceeds as follows. Part II provides background by briefly summarizing the portions of my previous article with Darien Shanske upon which this Essay builds. Following that background, Part III evaluates three potential operative mechanisms that might underlie observed tax salience effects. Part IV then analyzes three potential limiting factors that might prevent tax salience effects from

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6. And these attempts have been limited to applications of the bounded rationality paradigm. See *infra* Part III.A.

7. Indeed, I have conducted research of this sort myself; see Andrew T. Hayashi, Brent K. Nakamura & David Gamage, *Experimental Evidence of Tax Salience and the Labor-Leisure Decision: Anchoring, Tax Aversion, or Complexity?*, 41 PUB. FIN. REV. 203 (2013).

occurring in circumstances under which these limiting factors are strongly present. Part V concludes.

## II. BACKGROUND

One of the central contributions of my prior article with Darien Shanske was to argue that market salience and political salience should be considered distinct concepts.<sup>8</sup> In our terminology, “market salience” refers to when tax salience effects occur with respect to market decisionmaking (for example, consumer purchasing), and “political salience” refers to when tax salience effects occur with respect to political judgment formation (for example, individual voting).<sup>9</sup> We argued that market salience and political salience often work in opposite directions.<sup>10</sup> Factors capable of “reduc[ing] market salience may increase political salience, and vice versa.”<sup>11</sup>

Much of our article was devoted to evaluating normative arguments that have been made about the policy implications of tax salience.<sup>12</sup> This Essay does not primarily build on that discussion of normative arguments, but rather seeks to further develop our conclusion that “the existing empirical findings on both forms of tax salience are tentative. . . . [W]e cannot currently predict with any confidence how tax-design techniques affect tax salience within real-world environments.”<sup>13</sup>

Yet before proceeding to develop this conclusion by evaluating possible operative mechanisms and limiting factors, it is necessary to first briefly summarize the overview we provided in that article of hypotheses about tax salience in the existing literature.<sup>14</sup> Readers

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8. Gamage & Shanske, *supra* note 4, at 54-59.

9. For further discussion, see *id.* at 24-25.

10. *Id.* at 54-58.

11. *Id.* at 54.

12. *Id.* at 60-98.

13. *Id.* at 22-23.

14. The remainder of this Part summarizes portions of my prior article with Darien Shanske. Elaboration on and support for all of the statements made in the remainder of this Part can be found in that prior article, *id.* at 22-54. Since its publication, there have been a number of important developments in the literature on tax salience. Due to space and scope constraints, I will not review those developments in this Essay. Particularly noteworthy recent additions to the literature include: STEVEN M. SHEFFRIN, *TAX FAIRNESS AND FOLK JUSTICE* (2013); Lilian V. Faulhaber, *The Hidden Limits of the Charitable Deduction: An Introduction to Hypersalience*, 92 B.U. L. REV. 1307 (2012); Brian Galle, *Carrots, Sticks, and Salience*, 66 TAX L. REV. (forthcoming 2013), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2224160](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2224160); Jacob Goldin & Tatiana Homonoff, *Smoke Gets in Your Eyes: Cigarette Tax Salience and Regressivity*, 5 AM. ECON. J.: ECON. POL'Y 302 (2013); Jacob Goldin, Note, *Sales Tax Not Included: Designing Commodity Taxes for Inattentive Consumers*, 122 YALE L.J. 258 (2012); Andrew T. Hayashi, *The Legal Salience of Taxation* (Sept. 14, 2012) (unpublished manuscript), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2151867](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2151867); Daniel Reck, *Taxes and Mistakes: What's in a Sufficient Statistic?* (July 29, 2013) (unpublished manuscript), available

who are already familiar with the empirical literature on tax salience may wish to skip the remainder of this Part, so as to begin reading with this Essay's contributions to the literature in Parts III and IV.

### A. *Market Salience*

Taxpayers do not always fully factor the price effects of taxation into their market decisions.<sup>15</sup> Two categories of market salience—spotlighting and ironing—examine two different hypotheses for how taxpayers may respond to complicated or obscured tax prices.

#### 1. *Spotlighting*

Spotlighting involves taxpayers focusing only on certain components of an aggregate price and thereby underestimating the aggregate price.<sup>16</sup> Most observed spotlighting behavior results from a separation of the tax assessment from the market decision.<sup>17</sup> In particular, a number of empirical studies suggest that taxpayers often discount taxes that are not assessed until after a market decision has been made.<sup>18</sup> In other words, taxpayers appear often to spotlight on the prices displayed at the time of market decisionmaking.

#### 2. *Ironing*

Ironing occurs when taxpayers incorrectly use their average tax rates when making market decisions rather than their marginal tax rates.<sup>19</sup> In essence, ironing is a form of spotlighting behavior wherein taxpayers spotlight on their average tax rates when it would be more economically rational for the taxpayers to make decisions based on their marginal tax rates.

### B. *Political Salience*

Political salience refers to how the presentation of taxes affects political decisionmaking. For instance, certain tax instruments may have low political salience if voters discount tax costs imposed through these instruments when making voting decisions. A number of factors have been hypothesized to influence the political salience of taxation, including: indirect taxes, tax-system complexity, withholding, deficit financing, sticky baselines, and tax-label aversion.<sup>20</sup>

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at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2268617](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2268617).

15. Gamage & Shanske, *supra* note 4, at 26.

16. *Id.* at 27.

17. *Id.*

18. *Id.* at 27-31.

19. *Id.* at 31.

20. *Id.* at 34-54.

### 1. *Indirect taxes*

Indirect taxes refer to tax instruments for which the statutory incidence falls on businesses or other intermediaries rather than on individual taxpayers.<sup>21</sup> Even though at least a portion of the economic burden of indirect taxes falls on consumers in the form of higher prices, because voters do not personally remit these taxes they are alleged to have low political salience.<sup>22</sup> In other words, according to the indirect-taxes hypothesis, the public may often ascribe the burden of indirect taxes to the nominal payors, thus failing to account fully for taxes that the voting public does not explicitly pay.

### 2. *Tax-system complexity*

The tax-system complexity hypothesis holds that the voting public may discount tax prices for which determining the overall tax price requires more complex calculations.<sup>23</sup> For instance, many have alleged that breaking a tax price into a series of smaller payments assessed over a period of time may reduce political salience as compared to assessing a single aggregate tax price.<sup>24</sup> It is also sometimes alleged that reducing the compliance costs of tax instruments may lower the political salience of those tax instruments.<sup>25</sup>

### 3. *Withholding*

It is frequently alleged that the use of withholding mechanisms may lower the political salience of the withheld taxes.<sup>26</sup> However, the existing literature is not entirely clear as to what it is about withholding that is thought to reduce political salience.<sup>27</sup> It has been posited that breaking tax remittances into smaller regular payments may reduce the political salience of the tax liabilities.<sup>28</sup> To the extent this is so, the withholding hypothesis can be thought of as a sub-factor of the tax-system-complexity hypothesis. Alternatively, if tax liabilities subject to withholding are viewed more like money that is never received rather than a coercive extraction from the taxpayer's income, then the withholding hypothesis may operate similar to the indirect-taxes hypothesis.<sup>29</sup>

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21. *Id.* at 35.

22. *Id.* at 35-38.

23. *Id.* at 39-41.

24. *Id.*

25. *Id.*

26. *Id.* at 41-43.

27. *Id.*

28. *Id.*

29. *Id.*

#### 4. *Deficit financing*

The costs of deficit financing may be less politically salient than the costs of financing through current taxes.<sup>30</sup> In a sense, the deficit-financing hypothesis may operate like the market-salience hypothesis for spotlighting, to the extent that the deficit-financing hypothesis operates through the separation in time between voting decisions and when the future tax liabilities are imposed.<sup>31</sup>

#### 5. *Sticky baselines*

The sticky-baselines hypothesis groups several sub-hypotheses that all stand for the principle that foregone tax cuts are less politically salient than are actual tax hikes.<sup>32</sup> These sub-hypotheses include the flypaper effect, bracket creep, income elasticity, and the fiscal-volatility effect.<sup>33</sup>

#### 6. *Tax-label aversion*

The final political salience hypothesis is based on the notion that the mere labeling of a policy as a “tax” can reduce voter support for the policy. This general notion can be grouped into a number of related sub-hypotheses, including: taxes versus other extractions, tax-financed spending versus tax expenditures, and tax-financed spending versus regulation.<sup>34</sup>

### III. OPERATIVE MECHANISMS

There is considerable evidence that tax salience effects are real and that they are potentially important. However, the existing literature cannot yet offer clear predictions about how tax salience operates with respect to real-world tax instruments. In particular, the existing literature does not sufficiently analyze potential limiting factors to the hypotheses advanced about tax salience, and the literature thus cannot determine whether increased use of techniques for reducing tax salience would have the intended effect.<sup>35</sup> Ultimately, our current understanding of both market salience and political salience remains largely speculative.

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30. *See id.* at 43-45.

31. *Id.*

32. *See id.* at 45-49.

33. *Id.*

34. *See id.* at 49-54.

35. A key paper—Raj Chetty, Adam Looney & Kory Kroft, *Salience and Taxation: Theory and Evidence*, 99 AM. ECON. REV. 1145 (2009)—does analyze limiting factors, but only within a bounded rationality model. *See infra* Part III.A.

One method for improving our understanding of tax salience is through empirical testing of discrete tax salience hypotheses—such as the research reviewed in my prior article with Darien Shanske and summarized in Part II of this Essay. I am hopeful that this approach will yield further insights, and I applaud scholars engaged in this form of research.<sup>36</sup> However, testing of discrete hypotheses must be complemented with bigger-picture theorizing. An empirical study can only evaluate the predictions of a hypothesis as it relates to the particular circumstances giving rise to the experimental data. Without proper theoretical contextualizing, policy-minded scholars may inappropriately extrapolate the results of an empirical study to circumstances in which the results are unlikely to hold.<sup>37</sup>

I continue to believe that tax salience has multiple dimensions and that market salience and political salience should be considered distinct concepts. Nevertheless, both market salience and political salience are likely to result from similar operative mechanisms. Both refer to how taxpayers perceive their tax burdens with respect to either their market or political decisionmaking. Over the last couple decades, behavioral economists and decision-theory psychologists have developed a rich literature analyzing how consumers respond to price-shrouding techniques as employed by private-sector firms. This Part attempts to apply that consumer behavior literature to analyze potential operative mechanisms underlying both the market salience and political salience of taxation.<sup>38</sup>

A strong finding of the consumer behavior literature is that misperceiving prices does not necessarily imply underestimating prices.<sup>39</sup> When consumers are faced with convoluted price calculations in the private sector, they do not always underestimate the final price. Indeed, depending on the details of how a price is made convoluted, consumers may overestimate the final price rather than underestimating it.<sup>40</sup> Consequently, it is naive to assume that taxpayers will

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36. As noted earlier, *supra* note 7, I have engaged in this form of research myself.

37. Arguably, a primary goal of empirical research is to test hypotheses, so that the supported hypotheses can yield predictions outside of the contexts directly studied. Theorizing about operative mechanisms and limiting factors can help refine hypotheses and generate new predictions to be tested through future empirical work.

38. My discussion here builds on similar work by others, including: Aradhna Krishna & Joel Slemrod, *Behavioral Public Finance: Tax Design as Price Presentation*, 10 INT'L TAX & PUB. FIN. 189 (2003); Edward J. McCaffery & Jonathan Baron, *Thinking About Tax*, 12 PSYCHOL. PUB. POL'Y & L. 106 (2006).

39. Hyeon Min Kim & Luke Kachersky, *Dimensions of Price Salience: A Conceptual Framework for Perceptions of Multi-Dimensional Prices*, 15 J. PRODUCT & BRAND MGMT. 139, 139-40 (2006).

40. Vicki G. Morwitz, Eric A. Greenleaf, Edith Shalev & Eric J. Johnson, *The Price Does Not Include Additional Taxes, Fees, and Surcharges: A Review of Research on Partitioned Pricing* 36 (July 26, 2011) (unpublished manuscript), available at <http://ssrn.com/abstract=1350004> ("[F]irms need to understand that partitioned pricing



necessarily underestimate their tax liabilities when faced with difficult tax calculations. If a taxpayer is aware of the existence of a tax instrument but has trouble calculating her tax liabilities, should she not just estimate her tax liability and use this estimate when making market and political decisions?

This Part posits three potential explanations for what might cause taxpayers to (at least sometimes) underestimate their tax burdens. I label these mechanisms as: bounded rationality, time inconsistency, and framing effects. These mechanisms are not mutually exclusive. Methods for attempting to reduce tax salience may function through multiple or even all of these mechanisms. Nevertheless, determining which operative mechanisms potentially underlie empirical findings of tax salience is important both for generating hypotheses to be tested through future empirical research and for predicting the robustness of the empirical findings to limiting factors. Moreover, determining which operative mechanisms underlie observed tax salience effects may also be important for assessing their normative implications.

### A. *Bounded Rationality*

Bounded rationality refers to explanations wherein taxpayers rationally allocate scarce cognitive resources.<sup>41</sup> Once we recognize that taxpayers have limited time, energy, willpower, or other cognitive resources, it becomes manifestly obvious that taxpayers will not always perform all of the calculations needed to accurately assess the tax implications of their decisions. In their seminal paper on the market salience of taxation, Chetty, Looney, and Kroft presented an influential model of bounded rationality.<sup>42</sup> Their model predicts that taxpayers will be more likely to spotlight on immediately available price components (e.g., ignoring taxes that are not assessed until after the time of market decisionmaking) when making small, repeated purchases, and when tax rates are low.<sup>43</sup> Conversely, their model predicts that consumers will be more likely to calculate aggregate (post-tax) prices when making large, one-time purchases, or when tax rates are high.<sup>44</sup> The underlying notion is that consumers are more likely to expend the time and effort to calculate post-tax prices when more is at stake in their doing so. Effectively, Chetty, Looney, and

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benefits firms in many situations, but certainly not in all situations. . . . If some or all of these factors are absent, however, partitioned pricing can have no positive impact, or even a negative one.”).

41. See generally Matthew D. Adler, *Bounded Rationality and Legal Scholarship* (Univ. of Pa. Law Sch. Inst. for Law & Econ., Research Paper No. 08-03, 2008), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1095874](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1095874).

42. Chetty et al., *supra* note 35.

43. See *id.* at 1149-64.

44. See *id.* at 1175-76.

Kroft's bounded-rationality approach models consumers as trading off between making tax-efficient purchasing decisions and expending the cognitive effort required to calculate post-tax prices.

Within a bounded-rationality framework, the more complicated a tax calculation becomes, the less likely it becomes that taxpayers will accurately assess their tax liabilities. This dynamic can affect political salience as well as market salience. The more difficult it becomes to accurately assess tax burdens, as compared to how much the taxpayer cares about making accurate political judgments, the less likely that the taxpayer will expend effort to incorporate accurately tax information into her voting decisions.<sup>45</sup> However, as I noted earlier, taxpayers do not necessarily respond to complicated tax calculations by underestimating their tax liabilities.<sup>46</sup> If a taxpayer makes a rough estimate of the post-tax price of a market decision, or of the tax liability associated with a political decision, the taxpayer may well overestimate (rather than underestimate) the tax consequences.<sup>47</sup>

Hence, to reduce tax salience under a bounded-rationality framework requires doing more than just increasing complexity; a common strategy involves offering taxpayers a reference price that is lower than the total price.<sup>48</sup> If the reference price is close enough to the total price and is significantly more available, taxpayers may be induced to focus solely on the reference price rather than expending the effort to calculate the total price.<sup>49</sup> Reference-price strategies can be

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45. If voters care little about accurately incorporating tax information into their voting decisions, voting behavior may be especially prone to manipulation.

46. See *supra* text accompanying notes 39-40.

47. See Kim et al., *supra* note 39, at 139-40.

48. *Id.* at 140.

49. See *id.* at 139-40 ("This stream of research contends that consumers trade-off the benefits of accuracy with the costs of time and effort to process MDPs, and therefore they often underestimate total prices."). In the consumer behavior literature, price-presentation strategies that involve making price calculations more complicated and then offering a reference price that is lower than the final price are called "price-partitioning strategies," "reference-price strategies," or "multi-dimensional-pricing strategies." See, e.g., Chien-Huang Lin, Shih-Chieh Chuang & Chaang-Yung Kung, *The Presence of Reference Price: How Value Can Appear Convergent to Buyers and Sellers*, 33 ADVANCES IN CONSUMER RES. 237 (2006); Kim et al., *supra* note 39; Richard L. Ott & David M. Andrus, *The Effect of Personal Property Taxes on Consumer Vehicle Purchasing Decisions: A Partitioned-Price/Mental Accounting Theory Analysis*, 28 PUB. FIN. REV. 134 (2000). There are many variations to this basic strategic approach. For instance, one variation involves offering a discount and then trying to make the discount appear as salient and large as possible, rather than trying to make surcharges to the reference price less salient. For a couple other variations: "bundling" consists of charging a single combined price for multiple distinct goods, while "options pricing" involves creating additional features that can be added to a base product for additional charge. Marco Bertini & Luc Wathieu, Research Note, *Attention Arousal Through Price Partitioning*, 27 MARKETING SCI. 236, 237 (2008). These variations may also have tax-salience analogs, particularly in the state and local government context where it is common to assess fees and user charges for various publically provided services as an alternative to taxation.

especially effective when there is a temporal gap between when the reference price is assessed and when the final price is charged.<sup>50</sup> As DellaVigna notes, “[h]olding constant the informativeness, information that is further into the future (or past) is less likely to be salient.”<sup>51</sup>

With regard to market salience, studies of the spotlighting hypothesis found that taxpayers often discount taxes that are not assessed until after market decisions are made.<sup>52</sup> In other words, the price components available at the time of market decisionmaking may function as a reference price.<sup>53</sup> The reference-price dynamic also provides a potential explanation for the ironing hypothesis. Non-linear price schedules can be difficult to understand, and boundedly rational taxpayers may prefer to use a reference price rather than calculating their actual marginal tax rates when faced with a non-linear price schedule. If taxpayers sometimes use their average tax burdens from prior time periods as a reference price for predicting their future tax liabilities, then this would result in ironing behavior.<sup>54</sup>

With respect to political salience, the basic reference-pricing dynamic supports the indirect-taxes and deficit-financing hypotheses.<sup>55</sup> For indirect taxes, voters may use their direct tax burdens as a reference price, discounting the burdens of indirect taxes when reaching political judgments.<sup>56</sup> Similarly, for deficit financing, voters may use their current tax burdens as a reference price, discounting the increased future tax burdens needed to repay accrued debt.<sup>57</sup>

50. Stefano DellaVigna, *Psychology and Economics: Evidence from the Field*, 47 J. ECON. LITERATURE 315, 352 (2009).

51. *Id.*

52. *See supra* Part II.A.

53. For example, pre-sales-tax prices are close enough to aggregate post-sales-tax prices (as most states' sales taxes have rates below ten percent) and are significantly more available due to their being posted on the store aisles such that boundedly rational consumers may well decide it is not worth their time and effort to incorporate sales taxes into their purchasing decisions. *See* Chetty et al., *supra* note 35, at 1165-75. As another potential example, the time gap between when many income-tax-related decisions need to be made (December 31st) and when income taxes are calculated (April 15th) may reduce the market salience of decisions related to claiming income tax deductions and credits.

54. This explanation for ironing behavior is empirically supported by Feldman and Katuščák's finding that taxpayers make market decisions partially based on their average income-tax rates from prior years, even controlling for the relationship between prior and current year tax status. *See* Naomi E. Feldman & Peter Katuščák, *Should the Average Tax Rate Be Marginalized?* (Charles Univ. Ctr. For Econ. Research & Graduate Educ., Acad. of Scis. of the Czech, Econ. Inst., Working Paper No. 304, 2006), *available at* <http://www.cerge-ei.cz/pdf/wp/Wp304.pdf>.

55. For political salience, scholars have typically used the terms “isolation effect” or “focusing effect” in place of “spotlighting” or “reference pricing,” but the underlying idea is the same. *See, e.g.,* Edward J. McCaffery & Jonathan Baron, *Isolation Effects and the Neglect of Indirect Effects of Fiscal Policies*, 19 J. BEHAV. DECISION MAKING 289, 290 (2006).

56. *See id.*

57. *See id.* at 297-300.

Within the consumer behavior literature, a potentially important variation on the basic reference-pricing strategy is sometimes called "pennies-a-day."<sup>58</sup> The idea is that if a total price can be divided into a series of smaller sub-prices assessed over a prolonged period of time, then it can become more difficult to calculate the aggregate final price, and consumers may be induced to focus on the smaller periodic payments as a reference price. The pennies-a-day concept thus supports the tax-system-complexity hypothesis that tax instruments which levy many smaller payments over a period of time (e.g., sales taxes) may have lower political salience than tax instruments which levy fewer larger tax payments (e.g., property taxes). Krishna and Slemrod have speculated that this mechanism also supports the view that withholding reduces the political salience of the income tax.<sup>59</sup>

Another potentially important variation on the reference-pricing strategy has been called the "metric effect."<sup>60</sup> Research has demonstrated that individuals may react differently to prices depending on whether the prices are presented in dollar values or as percentages.<sup>61</sup> This metric effect manifests for both market salience and political salience. For market salience, displaying prices as percentages—instead of in dollar values—appears to make prices seem lower when the percentages are small and to make prices seem higher when the percentages are large.<sup>62</sup> When base prices are displayed in one format (either in dollar values or as percentages) and tax surcharges in another format, this can increase the cognitive effort needed to calculate aggregate prices and thereby make taxpayers more likely to spotlight on the reference price.

For political salience, voters' attitudes toward progressivity and other tax-policy topics appear to differ dramatically depending on whether tax liabilities are displayed in dollar amounts or as percentages.<sup>63</sup> Many voters appear to support progressivity "without having a strong sense about what progressivity means or about how much

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58. Krishna & Slemrod, *supra* note 38, at 193. The pennies-a-day strategy may also function via the mechanisms of time-inconsistency and/or framing effects, as I will discuss further *infra* Part III.B–C.

59. *Id.* at 193–94.

60. McCaffery & Baron, *supra* note 38, at 113.

61. *Id.* at 114.

62. See, e.g., Timothy B. Heath, Subimal Chatterjee & Karen Russo France, *Mental Accounting and Changes in Price: The Frame Dependence of Reference Dependence*, 22 J. CONSUMER RES. 90, 96 (1995) ("A \$50 savings probably sounds smaller when framed as a 1 percent discount, and a \$100 savings probably sounds larger when framed as a 50 percent discount."); Morwitz et al., *supra* note 40, at 37.

63. See, e.g., McCaffery & Baron, *supra* note 38, at 113–14 ("Most strikingly, subjects gave systematically different answers on the basis of whether the question was asked using dollars or percentages . . .").

progressivity they favor.”<sup>64</sup> For instance, “[u]nder the standard definitions, a ‘flat tax’ is defined as when all taxpayers pay the same percentage of their incomes in taxation, and a ‘progressive tax’ as when higher-income taxpayers pay a greater percentage of their incomes in taxation than do lower-income taxpayers.”<sup>65</sup> But when tax liabilities are displayed in dollar values rather than as percentages, higher-income taxpayers are shown as paying more in taxes than lower-income taxpayers even under a flat tax. Ed McCaffery and Jon Baron have thus demonstrated that displaying tax distribution information in dollar values can dramatically reduce voters’ support for progressivity.<sup>66</sup>

Overall, then, the bounded rationality framework provides a potential operative mechanism for the hypotheses that have been forwarded regarding both market salience and political salience, as discussed in Part II. However, alternative operational mechanisms may also explain and support these hypotheses. This Part thus proceeds to discuss two alternative operational mechanisms: time inconsistency and framing effects.

### B. Time Inconsistency

Within a bounded-rationality framework, temporal gaps can decrease tax salience by making it more difficult to calculate post-tax prices. Temporal gaps are also key to the time-inconsistency framework, but the mechanism is not due to increasing the complexity of tax calculations. Instead, the time-inconsistency framework operates when taxpayers mispredict their future behavior or irrationally over-discount the effects of a present decision on their future selves.

More specifically, numerous laboratory and field experiments have demonstrated that individuals do not always discount the future implications of their decisions as predicted by standard economic models.<sup>67</sup> Individuals frequently engage in what is often called “hyperbolic discounting” and apply a much higher discount rate when comparing the present to the near future than when comparing two time periods in the future.<sup>68</sup> As DellaVigna elaborates:

[E]vidence suggests that discounting is steeper in the immediate future than in the further future. For example, the median subject in Thaler (1981) is indifferent between \$15 now and \$20 in one

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64. Gamage & Shanske, *supra* note 4, at 83.

65. *Id.* at 83-84.

66. McCaffery & Baron, *supra* note 38, at 113-14.

67. See DellaVigna, *supra* note 50, at 318-23; Lee Anne Fennell & Kirk J. Stark, *Taxation Over Time*, 59 TAX L. REV. 1, 13-15 (2005).

68. David Laibson, *Golden Eggs and Hyperbolic Discounting*, 112 Q.J. ECON. 443, 449 (1997).

month (for an annual discount rate of 345 percent) and between \$15 now and \$100 in ten years (for an annual discount rate of 19 percent).<sup>69</sup>

Three related hypotheses have been forwarded to explain this hyperbolic-discounting behavior. First, taxpayers may simply not value the welfare of their future selves in the same fashion as they do the welfare of their present selves.<sup>70</sup> An important philosophical approach associated with Derek Parfit argues that personal identity is not stable over time.<sup>71</sup> The implications of this view are far from straightforward, and I will not attempt to do them justice in this Essay. Nevertheless, it is worth noting that if taxpayers care more about their present selves than their future selves, then a taxpayer operating at any specific moment in time may view the gap between her present self and her near-future self as considerably more important than the gap between her more-distant-future self and her self in a time period following that more-distant future.<sup>72</sup> Hence, hyperbolic-discounting behavior may be caused by taxpayers valuing their present selves over their future selves.

A second explanation for hyperbolic-discounting behavior is “self-control problems.” Self-control problems operate when taxpayers make decisions inconsistent with their own judgments about welfare over time because they lack the willpower to refrain from immediately satisfying their present desires.<sup>73</sup> Anyone who has consciously over-eaten when faced with a good meal or who has been unable to resist the in-the-moment temptations of candy, alcohol, or gambling, should understand what is meant by self-control problems.

Finally, hyperbolic discounting may be due to an “optimism bias” wherein individuals make unrealistic predictions about their likely future behavior or about likely future conditions. For example, consumers appear to regularly over-predict the amount they will exercise in the future when purchasing health club memberships<sup>74</sup> and to

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69. DellaVigna, *supra* note 50, at 318.

70. See Lawrence Zelenak, *Tax Policy and Personal Identity over Time*, 62 TAX L. REV. 333 (2009).

71. See DEREK PARFIT, *REASONS AND PERSONS* (1984).

72. If taxpayers limit their conception of self to their present self but have partial-altruistic preferences toward all of their future selves, they might well strongly prioritize the welfare of their present self over all future selves, but they might not strongly prioritize the welfare of a near-future self over a more-distant-future self. For further discussion more generally, see Daniel M. Bartels & Oleg Urminsky, *On Intertemporal Selfishness: How the Perceived Instability of Identity Underlies Impatient Consumption*, 38 J. CONSUMER RES. 182 (2011).

73. DellaVigna, *supra* note 50, at 318-24.

74. Stefano DellaVigna & Ulrike Malmendier, *Contract Design and Self-Control: Theory and Evidence*, 119 Q.J. ECON. 353, 373-77 (2004).

under-predict the amount they will borrow in the future when deciding whether to open credit-card accounts.<sup>75</sup>

Under all three explanations, hyperbolic discounting can lead taxpayers to make choices in the moment that do not correspond with the taxpayers' long-term preferences. If tax instruments are designed so as to create a temporal gap between when decisions regarding taxation are made and when tax liabilities are imposed, the impact of the tax liabilities may become less salient. In effect, taxes can be designed so as to facilitate present-oriented taxpayers exporting the tax consequences of their current decisions to their future selves.

In regard to market salience, the time-inconsistency framework offers an alternative explanation for spotlighting behavior. Since most of the major empirical studies of spotlighting involved a temporal gap between when the tax liabilities were assessed and when the market decisions were made, observed spotlighting behavior could be a result of taxpayers' hyperbolically discounting their future tax liabilities. In contrast, the time-inconsistency framework on its own probably does not explain ironing behavior; the difficulty in assessing non-linear price schedules probably does not result from temporal gaps.<sup>76</sup> With respect to political salience, the time-inconsistency framework offers clear support for the deficit-financing hypothesis. The deficit-financing hypothesis predicts that taxpayers tend to discount the future tax liabilities that result from accrued debt. If taxpayers engage in hyperbolic discounting with respect to future tax liabilities, then deficit financing should reduce the political salience of taxation. The time-inconsistency framework on its own probably does not support the other political salience hypotheses, which do not function based on time delays.<sup>77</sup>

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75. *Id.* at 377-79.

76. Although time inconsistency on its own does not explain ironing behavior, time inconsistency may work in tandem with bounded rationality to jointly cause ironing behavior. A boundedly rational taxpayer may be tempted to use her average tax rates rather than her marginal tax rates in order to avoid expending the cognitive resources necessary to calculate marginal tax rates. If there is a temporal gap between when tax rates are calculated and when tax liabilities are imposed, then time inconsistency may exacerbate the temptation to avoid calculating marginal tax rates. For instance, taxpayers make market decisions that affect their income-tax liabilities throughout the year; many important income-tax-relevant decisions must be made by December 31st, but income-tax forms are not due until April 15th. If bounded rationality tempts taxpayers to make income-tax-relevant decisions based on their average tax rates, time inconsistency can exacerbate these temptations since the tax consequences will not be felt until after the decisions are made.

77. However, time inconsistency may magnify the effects of bounded rationality. If bounded rationality tempts taxpayers to focus on reference prices when making voting decisions, to avoid expending the cognitive resources needed to more accurately assess their tax liabilities, time inconsistency can increase these temptations to the extent that the fiscal consequences of voting decisions seem remote in time from the voting.

Determining whether a tax salience effect results from time inconsistency or from bounded rationality can be important because the two operative mechanisms may respond differently to limiting factors, such as the size of a tax liability.<sup>78</sup> As with bounded rationality, there are limits to the operation of time inconsistency. Taxpayers who realize that they are prone to hyperbolic-discounting behavior may take steps to prevent their future selves from making decisions at the expense of their even-more-distant-future selves.<sup>79</sup> Such taxpayers might go so far as to sign contracts with third parties to bind the taxpayers' future behavior.<sup>80</sup> Or taxpayers may use cognitive mechanisms to restrict the present-focused desires of their future selves, in a sense forming contracts between the taxpayers' selves at various points in time.<sup>81</sup> We might hypothesize that the more frequent and important a time-inconsistency scenario becomes, the more likely it becomes that taxpayers will take steps to prevent their future selves from engaging in hyperbolic-discounting behavior. However, many of the mechanisms taxpayers can use to overcome time-inconsistent behavior require the taxpayers to know in advance that they are subject to time inconsistency.<sup>82</sup> When tax salience effects result from time inconsistency, the limiting factor of whether taxpayers can learn from experience may rise to central importance.<sup>83</sup>

### C. Framing Effects

The third potential operative mechanism, framing effects, might be thought of as a catch-all category for biases that do not operate

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78. See *infra* Part IV.

79. See Roland Bénabou & Jean Tirole, *Self-Knowledge and Self-Regulation: An Economic Approach*, in 1 THE PSYCHOLOGY OF ECONOMIC DECISIONS 137, 137 (Isabelle Brocas & Juan D. Carrillo eds., 2003) (describing research on a variety of tools individuals can use to overcome time-inconsistent behavior).

80. See Nava Ashraf, Dean Karlan & Wesley Yin, *Tying Odysseus to the Mast: Evidence from a Commitment Savings Product in the Philippines*, 121 Q.J. ECON. 635, 635-38 (2006) (describing research on financial products that enable consumers to limit the discretion of their future selves); Richard H. Thaler & Shlomo Benartzi, *Save More Tomorrow™: Using Behavioral Economics to Increase Employee Saving*, 112 J. POL. ECON. 164, 168-69 (Supp. 2004) (explaining that employer-sponsored automatic-enrollment savings plans have been "remarkably successful").

81. See Jess Benhabib & Alberto Bisin, *Modeling Internal Commitment Mechanisms and Self-Control: A Neuroeconomics Approach to Consumption-Saving Decisions*, 52 GAMES & ECON. BEHAV. 460, 462 (2005) (describing a model based on research in cognitive neuroscience wherein individuals "have the ability to either invoke *automatic processes* that are susceptible to impulses or temptations, or alternative *control processes* which are immune to such temptations."); see also Bénabou & Tirole, *supra* note 79.

82. See, e.g., Ashraf et al., *supra* note 80, at 636 ("If individuals with time-inconsistent preferences are sophisticated enough to realize it, we should observe them engaging in various forms of commitment (much like Odysseus tying himself to the mast to avoid the tempting song of the sirens).").

83. See *infra* Part IV.B.



based on bounded rationality or time inconsistency. Looking back to our discussion of reference-price strategies under the bounded-rationality paradigm, the hypothesis was that partitioning an aggregate price into a lower reference price plus a tax surcharge makes it more difficult for consumers to calculate aggregate prices and thus tempts the consumers to instead make judgments using a reference price that is lower than the aggregate price. Yet the empirical findings on reference pricing have also been analyzed using a framing-effects approach. To the extent that framing effects is the operative mechanism, consumers form initial judgments and expectations based on the reference price and then allow these initial judgments and expectations to influence their perceptions of the aggregate price—even when the consumers do later fully calculate the aggregate price. Several studies have found that reference-price strategies can bias value judgments even when consumers do calculate aggregate (post-tax) prices.<sup>84</sup> Biases that operate through individuals making preliminary judgments based on incomplete information, and then allowing these preliminary judgments to color their final evaluations even when they later receive complete information, are often called “anchoring biases.”<sup>85</sup>

Anchoring may function as an alternative operative mechanism for all of the hypotheses that can be explained by the bounded-rationality form of reference pricing. Consider first the market salience hypothesis of spotlighting. If taxpayers anchor on the spotlighted reference price, even later showing the taxpayers their aggregate tax liabilities may not counteract the market salience effects of spotlighting. Similarly, if taxpayers first consider their historic average tax rates when making market decisions—following the ironing hypothesis—they may anchor on this reference price such that later exposure to marginal tax rates may not counteract the initial anchoring.

Anchoring can likewise potentially explain all of the political salience hypotheses. If voters use their direct tax burdens or current tax burdens as reference-price proxies, then anchoring can produce political salience effects even if the voters are later exposed to their indirect or future tax burdens. Similarly, if voters use politicians' votes as a form of reference-price proxy, anchoring may influence voting behavior even if the voters also note the impact on their tax burdens of the phenomena underlying the sticky-baselines hypotheses. Simi-

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84. See, e.g., Gretchen B. Chapman & Eric J. Johnson, *Anchoring, Activation, and the Construction of Values*, 79 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 115 (1999); Robin M. Hogarth & Hillel J. Einhorn, *Order Effects in Belief Updating: The Belief-Adjustment Model*, 24 COGNITIVE PSYCHOL. 1 (1992); Thomas Mussweiler & Fritz Strack, *The Semantics of Anchoring*, 86 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 234 (2001); Morwitz et al., *supra* note 40, at 30-31.

85. See Hayashi et al., *supra* note 7, at 217.

larly, if the pennies-a-day strategy has an anchoring component, then the framing approach may support the notions that the political salience of taxation can be lowered by dividing an aggregate tax liability into a series of smaller payments collected over time or through the use of multiple smaller tax instruments in place of a single larger tax instrument. Withholding may also trigger anchoring responses by making it so that an aggregate tax liability is paid in small increments over time. Anchoring may thus provide support for the view that withholding reduces the political salience of taxation even when taxpayers are forced to later calculate their aggregate tax liabilities through annual income-tax filing.

Consequently, anchoring can lead to the same behaviors as bounded rationality and may thus exacerbate the consequences of bounded rationality. But where anchoring plays a strong role, it may be far more difficult to restore tax salience. In the context of bounded rationality, forcing taxpayers to perform tax calculations should usually suffice to counteract salience effects.<sup>86</sup> The anchoring phenomenon is potentially more robust. The notion underlying anchoring is that the judgments taxpayers make using incomplete information are not always updated even if complete information later becomes available. Anchoring can be thought of as an even more extreme consequence of limited cognitive resources than in the more standard bounded-rationality framework. Not only do taxpayers often forgo fully calculating their tax liabilities, but they also do not always update their prior views and understandings even when they later receive better information than that which was available when the initial views and understandings were forged.

In addition to anchoring, another potentially important framing-effects bias is the "endowment effect," well known to even casual readers of the behavioral economics literature. Under the standard endowment effect, individuals have been shown to assign more disutility to "losses" than utility to equivalent "gains."<sup>87</sup> Whether a change in circumstances is coded as a loss or as the absence of a gain depends on the framing of the individual's endowment. In regard to taxation, whether taxpayers perceive taxes as losses from their pre-tax endowments or as reduced gains from engaging in market transactions may determine whether the endowment effect comes into play.<sup>88</sup>

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86. To counteract market salience, taxpayers should be forced to calculate aggregate tax prices. To counteract political salience, taxpayers should be forced to calculate the tax components of prices. See Gamage & Shanske, *supra* note 4, at 54-58.

87. See McCaffery & Baron, *supra* note 55, at 290; see also Edward J. McCaffery, *Cognitive Theory and Tax*, 41 UCLAL. REV. 1861, 1875 (1994).

88. See *id.*

Compare the political salience of the employer-paid and employee-paid portions of the payroll tax. The employer-paid portion of the payroll tax is taken out before workers are told their salaries and thus is likely coded as smaller gains from working. In contrast, the employee-paid portion of the payroll tax is presented with the employees first seeing pre-tax salary totals and then being shown how much the government takes out of the pre-tax salary. The employee-paid portion of the payroll tax is thus more likely to be coded as a loss. Income-tax payments may be even more likely to be coded as losses, as taxpayers are instructed to calculate their aggregate pre-tax incomes before being told that the government will take a portion of this income figure from them.<sup>89</sup> Hence, the endowment effect supports the indirect-taxes political salience hypothesis.<sup>90</sup> If voters view direct taxes as losses and indirect taxes as forgone gains, then the use of direct taxes may trigger the endowment effect as compared to indirect taxes, thereby making indirect taxes less politically salient than direct taxes.<sup>91</sup>

A related form of the endowment effect—often labeled as the status-quo bias—may support the sticky-baselines political salience hypotheses. If voters understand the tax laws on the books to constitute the status quo and view politicians' votes to change these laws as departures from the status quo, then any votes to raise taxes may be coded as losses, whereas the increased tax revenue generated by the phenomena underlying the sticky-baselines hypotheses may be viewed as the status quo.<sup>92</sup> The endowment effect may also play a role in regard to the withholding political salience hypothesis. If withheld income is not incorporated into taxpayers' endowments,

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89. Related to the endowment effect, the framing of tax design might also affect whether tax payments are viewed as mandatory extractions or as voluntary payments. Anecdotal evidence suggests that taxpayers are more averse to property taxes than to real estate transaction taxes. See Marika Cabral & Caroline Hoxby, *The Hated Property Tax: Salience, Tax Rates, and Tax Revolts* (Nat'l Bureau of Econ. Research, Working Paper No. 18514, 2012). The standard endowment effect may explain this result if taxpayers view property taxes as coming from their pre-tax endowments and real-estate-transaction taxes as being extra amounts paid to purchase property. Yet in addition to being averse to losses, individuals may also be more averse to mandatory extractions than to voluntary payments. If real-estate-transaction taxes are viewed as resulting from the taxpayer's choice to purchase real estate, while property taxes are viewed as being unrelated to the taxpayer's choices, then an aversion to mandatory extractions might come into play in addition to the endowment effect. Of course, property taxes also result from the choice to purchase property, but taxpayers may view this connection as more tenuous.

90. McCaffery & Baron, *supra* note 55, at 290.

91. *Id.* More speculatively, the endowment effect could also lead voters to discount future tax liabilities—following the deficit-financing political salience hypothesis—if current taxes are viewed as losses and future taxes as forgone gains.

92. For instance, see the discussion of state-level revenue volatility in David Gamage, *Preventing State Budget Crises: Managing the Fiscal Volatility Problem*, 98 CALIF. L. REV. 749, 799-801 (2010).

then taxpayers may be more politically averse to paying additional taxes at the end of the year than to having amounts withheld regularly from their paychecks.

The existence and importance of framing effects has been well demonstrated. The framing-effects approach is undoubtedly important for understanding tax salience. Unfortunately, the implications of framing effects are harder to predict than are the implications of bounded rationality or time inconsistency. Most crucially, it is more difficult to predict when individuals are likely to overcome the impact of framing effects.

Research suggests that the market salience of at least some framing effects can be overcome through the use of agents.<sup>93</sup> Taxpayers increasingly use accountants or software to guide them through difficult income-tax decisions.<sup>94</sup> Wealthier taxpayers may rely on lawyers and financial advisers to assist with decisionmaking, particularly when large tax liabilities are at stake.<sup>95</sup> Books and websites provide tools to assist even moderate-income taxpayers with weighing the tax and non-tax factors involved in making large purchases, such as for housing and automobiles.<sup>96</sup> Similarly, with regard to political salience, voters' opinions about taxation may depend more on the information they receive from experts and from other trusted sources than from their direct experience with the tax system.<sup>97</sup> Political experts

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93. See, e.g., Jennifer Arlen, Matthew Spitzer & Eric Talley, *Endowment Effects With-in Corporate Agency Relationships*, 31 J. LEGAL STUD. 1 (2002) (finding that subjects situated in agency relationships do not exhibit a significant endowment effect); John A. List, *Does Market Experience Eliminate Market Anomalies?*, 118 Q.J. ECON. 41 (2003) (finding that market experience eliminates the endowment effect).

94. Marsha Blumenthal & Charles Christian, *Tax Preparers, in THE CRISIS IN TAX ADMINISTRATION 201*, 201-02 (Henry J. Aaron & Joel Slemrod eds., 2004); Lawrence Zelenak, Essay, *Complex Tax Legislation in the TurboTax Era*, 1 COLUM. J. TAX L. 91, 94-95 (2010).

95. See Blumenthal & Christian, *supra* note 94, at 203-04 (describing factors correlated with taxpayers being more likely to hire tax practitioners).

96. See, e.g., *Auto Loan Application*, DRIVERS LANE, <http://www.driverslane.com/calculators/sales-tax-calc.htm> (last visited Jan. 30, 2014); *Home Purchase Calculator*, PLANNING TIPS, <http://www.planningtips.com/cgi-bin/howmuch.pl> (last visited Jan. 30, 2014); *Tax, Title, Tags, and Fees Calculator*, CARMAX, <http://www.carmax.com/enUS/tax-title-tags-fees-calculator/default.html> (last visited Jan. 30, 2014); *TurboTax AnswerX-change – For Tax Years 2008-2010 Only: Claiming the First-Time Homebuyer Tax Credit*, TURBOTAX, <http://turbotax.intuit.com/support/kb/tax-content/tax-tips/6360.html> (last visited Jan. 30, 2014); *Used Vehicle Tax Calculator*, DMV.ORG, <http://search.dmv.org/dmv/used-vehicle-tax-calculator> (last visited Jan. 30, 2014).

97. For instance, at the state level, the Tax Foundation's "state business tax climate index" and "tax freedom day" rankings have had enormous influence. See *State Tax and Spending Policy*, TAX FOUNDATION, <http://taxfoundation.org/tax-topics/state-tax-and-spending-policy> (last visited Jan. 30, 2014). For criticisms of the methodologies underlying these rankings, see NICHOLAS JOHNSON, IRIS J. LAV & JOSEPH LLOBRERA, CTR. ON BUDGET & POLICY PRIORITIES, *TAX FOUNDATION ESTIMATES OF STATE AND LOCAL TAX BURDENS ARE NOT RELIABLE* (2006), available at <http://www.cbpp.org/cms/?fa=view&id=133>.

and other opinion leaders may function much like agents and software do for market salience—allowing taxpayers to make more accurate voting decisions about taxation even when the taxpayers' direct observations about taxation are biased due to framing effects.

Agents and opinion leaders may also assist taxpayers in overcoming the impact of bounded rationality and time inconsistency. Yet agents and opinion leaders are likely to be even more crucial to framing effects, as it is less clear whether taxpayers can overcome framing effects without the use of agents. If taxpayers become aware that they are potentially susceptible to framing effects, and if they view the market or political decision as important enough, taxpayers may turn to agents or opinion leaders in order to overcome their impact.

#### IV. LIMITING FACTORS

The existing literature is far from clear about the factors affecting tax salience or the circumstances in which these factors are likely to come into play. I have tried to clarify the literature by discussing three potential operative mechanisms for tax salience in order to provide a foundation for discussing the normative implications of tax salience and for generating hypotheses to be tested by future empirical work. Yet it is important to emphasize that there are limits to these operative mechanisms. I will thus discuss three key potentially limiting factors, beginning with the size of the tax liability in question.

##### A. *Size of the Tax Liability*

The first limiting factor for tax salience that I will discuss is the size of a tax liability. How the size of a tax liability operates is most straightforward under a bounded-rationality framework, wherein increasing the size of a tax liability should generally increase taxpayers' incentives to calculate the tax liability accurately. The bounded-rationality framework imagines taxpayers performing implicit cost-benefit analyses when deciding whether to expend the required cognitive resources. All else being equal, then, the more money at stake in calculating a tax liability, the more incentive taxpayers have to do so accurately.<sup>98</sup>

Of course, all else is not always equal. The impact of the size of a tax liability depends on the opportunity cost of the taxpayer's cognitive resources. The more a taxpayer has to give up in order to assess a tax liability accurately, the less likely the taxpayer will be to perform the calculations. Moreover, with regard to political salience,

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98. Hence, levying smaller taxes across a wide variety of transactions (as in retail sales taxes) may create less incentive for taxpayers to calculate their aggregate tax burden accurately than would levying a larger tax on a fewer number of transactions (as in excise taxes on luxury goods or real-estate-transaction taxes). *See supra* Part III.A.

taxpayers arguably have little at stake in making accurate voting decisions.<sup>99</sup> Indeed, there is a large literature questioning why it is that individuals even bother to vote at all.<sup>100</sup> Many have argued that individuals typically vote based on emotions and uninformed intuitions, rather than expending effort to process the information needed to vote rationally.<sup>101</sup>

Yet regardless of whether voters process information based on logic or intuition, there is substantial evidence that voter opinions do respond to changes in the size of tax burdens.<sup>102</sup> The larger the size of a tax liability, the more information taxpayers are likely to receive about the tax instrument in question, whether the information comes from direct experience, from political-opinion leaders, or from the media. Even if voter judgments are largely emotional and intuitive, available evidence still suggests that voters are generally more averse to large tax liabilities than to small ones.<sup>103</sup>

The impact of the size of a tax liability is less straightforward under a time-inconsistency framework. If taxpayers realize in advance that they are subject to time inconsistency, taxpayers may take steps (either concrete or cognitive) to limit the discretion of their future selves.<sup>104</sup> The size of a tax liability might then affect tax salience under a time-inconsistency framework much as it does under a bounded-rationality framework. The larger the size of a tax liability, the more incentive taxpayers would have to limit the discretion of their future selves. However, if taxpayers do not realize in advance that they are subject to time inconsistency, they may be unable to limit their future selves, and the relative size of a tax liability may have no effect on tax salience or may even increase the impact of tax salience.<sup>105</sup>

It is hardest to predict how the size of a tax liability functions under the framing-effects paradigm. The literature has yet to develop a sufficiently deep understanding of how framing effects operate for us

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99. See, e.g., BRYAN CAPLAN, *THE MYTH OF THE RATIONAL VOTER: WHY DEMOCRACIES CHOOSE BAD POLICIES* (2007).

100. See, e.g., GEOFFREY BRENNAN & LOREN LOMASKY, *DEMOCRACY AND DECISION: THE PURE THEORY OF ELECTORAL PREFERENCE* (1993).

101. *Id.*

102. ANDREA CAMPBELL, *HOW AMERICANS THINK ABOUT TAXES: PUBLIC OPINION AND THE AMERICAN FISCAL STATE* (forthcoming) (manuscript at 4-5) (on file with author).

103. *Id.*

104. See *supra* notes 79-82 and accompanying text.

105. The larger a tax liability, the more a present-self-focused taxpayer can gain by exporting tax consequences to the taxpayer's future selves and the more tempting it may be for a taxpayer to succumb to self-control problems. Also, optimism biases may have greater impact if taxpayers mispredict that they will be in a better position to deal with tax liabilities in the future. Hence, when taxpayers cannot limit the discretion of their future selves, increasing the size of a tax liability can potentially exacerbate time-inconsistency problems.

to assess confidently predictions about the relationship between framing effects and the size of a tax liability. Moreover, since this Essay uses the term “framing effects” as a catch-all category for biases that do not operate through bounded rationality or time inconsistency, different forms of framing effects may exhibit varied responses to the size of a tax liability. Nevertheless, I expect that framing effects respond to the size of a tax liability much as does time inconsistency. When taxpayers realize in advance that they are subject to framing effects, they may take steps to counteract them.<sup>106</sup> If a tax liability becomes large enough, taxpayers may turn to agents or other third-party assistance in order to incorporate tax information into their decisionmaking more accurately.

Ultimately, how the size of a tax liability affects tax salience is highly interrelated with the extent to which taxpayers learn from experience with their tax environments. This is particularly true under the time-inconsistency and framing-effects paradigms, where taxpayers may be unable to de-bias themselves unless they know in advance that they are likely to make sub-optimal tax decisions. I will thus proceed next to discuss the limiting factor of learning from experience.

### B. *Learning from Experience*

Even when taxpayers cannot accurately assess a tax instrument directly, taxpayers may still note the connections between tax-relevant decisions and the tax consequences following those decisions.<sup>107</sup> Through repeated exposure to the tax consequences of decisions, taxpayers may develop a rough sense of what affects their expected future tax liabilities, even without understanding the tax-law mechanics of how these liabilities are calculated. In addition to learning from their own experiences, taxpayers may learn from the tax experiences of their friends, families, and acquaintances, or from stories in the media.<sup>108</sup> In regard to political salience, taxpayers may learn by noting the consequences of tax-policy choices across different nations, states, or time periods.<sup>109</sup> Taxpayers can also learn about

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106. See *supra* notes 93-97 and accompanying text.

107. See, e.g., Oren Bar-Gill & Franco Ferrari, *Informing Consumers About Themselves*, 3 ERASMUS L. REV. 93, 97-98 (2010) (arguing that seller interpretations of consumer mistakes exacerbates welfare costs associated with such mistakes); Alexander L. Brown, Zhikang Eric Chua & Colin F. Camerer, *Learning and Visceral Temptation in Dynamic Saving Experiments*, 124 Q.J. ECON. 197, 198 (2009) (explaining experimental results wherein subjects at first saved too little, but then learned to save near optimally after social learning).

108. One need only glance at any major newspaper either in December (before the close of the tax year) or in early April (before the April 15th income-tax filing date) to be bombarded by tax advice and discussions of the political impact of various tax provisions.

109. For instance, Americans who travel to Europe may note the higher prices Europe-

taxation from experts or from other political actors. The impact of tax design on voting behavior may largely occur through a process whereby tax design influences the views of key opinion leaders who then preach to the larger population.

Hence, the extent to which a tax environment is conducive to taxpayer learning is a key factor in the operation of both market and political salience. Liebman and Zeckhauser outline several conditions relevant for whether individuals are likely to learn from experience, the most notable of which are: "delayed payoffs," "bundled consumption," and "false signals."<sup>110</sup>

Delayed payoffs refer to when the tax consequences of a decision are not felt until a long time period after the decision is made.<sup>111</sup> It becomes more difficult to learn from the consequences of a tax-relevant decision when those consequences do not occur for a long time period, both because more time will have elapsed before any potential learning can take place and because the decision is likely to become less salient over time, thus weakening the perceived connection between the decision and its consequences.<sup>112</sup> For example, there is a large literature analyzing how taxpayers respond to tax incentives for retirement savings.<sup>113</sup> Because most taxpayers only retire once, well after their peak earning years, taxpayers have little opportunity to learn from observing the consequences of their earlier retirement-savings decisions. Taxpayers are thus far less likely to learn about the impact of taxes on their retirement decisions than on their everyday work and consumption decisions.

Bundled consumption refers to when the consequences of one decision are intermingled with the consequences of other decisions.<sup>114</sup> The

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ans pay for comparable goods and learn that these price differences are (at least partially) due to European value added taxes (VATs).

110. Jeffrey B. Liebman & Richard J. Zeckhauser, Schmeduling 5-6 (Oct. 2004) (unpublished manuscript), available at <http://www.hks.harvard.edu/jeffreyliebman/schmeduling.pdf>. In addition to the factors discussed in this Essay, Liebman and Zeckhauser also analyze the additional factors of "heterogeneity in offered schedules," "obscure pricing units," "nonstationary economic environment," and "frequent revisions of schedules." *Id.* at 4-5. There are, of course, many other categorization schemas in the literature for factors affecting learning from experience. See, e.g., Bar-Gill & Ferrari, *supra* note 107, at 97 n.11 ("Learning from one's mistakes relies on timely, clear and painful feedback . . ."); Colin F. Camerer, *Comment on Noll and Krier, "Some Implications of Cognitive Psychology for Risk Regulation,"* 19 J. LEGAL STUD. 791, 794 (1990) ("Studies show that learning is difficult unless feedback is clear, frequent, and quick.").

111. Liebman & Zeckhauser, *supra* note 110, at 5.

112. This condition is related to how temporal gaps can induce bounded rationality by making it more difficult to predict the tax consequences of a decision. But as a factor affecting taxpayer learning from experience, delayed payoffs operates *ex post* rather than *ex ante* (affecting after-the-fact learning rather than before-the-fact calculations).

113. See Olivia Mitchell & Stephen Utkus, *Lessons from Behavioral Finance for Retirement Plan Design* 35 (Pension Research Council, Working Paper No. 2003-6, 2003).

114. Liebman & Zeckhauser, *supra* note 110, at 5.



more difficult it becomes to identify which of many tax-related choices caused a particular outcome, the harder it becomes to learn about the connections between choices and outcomes. For example, the income-tax benefit produced by making a charitable contribution depends on how much the taxpayer claims for other itemized deductions. If a taxpayer claims different amounts in itemized deductions across different tax years, it may become difficult to learn from experience how much income-tax benefit is received by making a charitable contribution.

Finally, the condition of false signals refers to when taxpayers receive potentially misleading information following a tax-relevant decision.<sup>115</sup> When economic circumstances change over time, taxpayers may incorrectly associate tax decisions with outcomes caused by external events. Likewise, taxpayers who have idiosyncratic tax profiles may learn incorrect lessons from their friends, acquaintances, or the media. For instance, learning about deficit financing may be obscured by the tendency for deficits to rise during recessions and shrink during periods of economic growth. When deficit-financed tax cuts (or spending hikes) are made during economic downturns, voters may see deficits shrink as the economy recovers and thus conclude that the tax cuts (or spending hikes) did not negatively affect the governments' debt levels.

On their own, the conditions of delayed payoffs, bundled consumption, and false signals are neither necessary nor sufficient for taxpayer learning. My discussion of these conditions is aimed at outlining a few important considerations for whether learning from experience is likely, but this discussion is by no means exhaustive. Nevertheless, when conditions are conducive to learning, and when the size of a tax liability becomes large enough, I expect taxpayer learning to at least partially counteract the effects of both market and political salience. Indeed, the ironing hypothesis for market salience is based on the notion that taxpayers learn from their experience with tax rate schedules but then develop an imperfect ability to predict future consequences (as non-linear pricing schedules cause marginal rates to differ from average rates). Any discussion of tax salience that does not evaluate the possibility of taxpayer learning is unlikely to yield useful predictions for real-world taxpayer behavior.

Taxpayer learning is particularly important for understanding tax salience under the time-inconsistency and framing-effects models. The existing literature has not fully determined the extent to which taxpayers can de-bias themselves from the consequences of time inconsistency or framing effects. To the extent taxpayers can de-bias themselves directly, the likelihood of taxpayer learning should work

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115. *Id.* at 5-6.

together with the size of the tax liability to increase taxpayers' incentives for de-biasing.<sup>116</sup> But even when taxpayers cannot de-bias themselves directly, they may turn to agents, third-party tools, or market mechanisms to improve their tax decisionmaking. The likelihood of taxpayer learning and the size of a tax liability should thus work together to increase taxpayers' motivations for de-biasing, regardless of whether taxpayers can de-bias themselves directly or only through the use of third-party assistance.<sup>117</sup>

Might some instances of framing effects be immune to de-biasing even through the use of third-party tools and agents? If so, tax-design techniques drawing on these framing effects could be sufficiently robust so as to be insurmountable even were governments to engage in massive use of these techniques under conditions where taxpayers could easily learn from experience. The existing literature does not rule out this possibility, yet I am skeptical. Framing effects function through how prices are displayed. I see no reason why agents or third-party tools could not train taxpayers to perceive tax prices using alternative frames. Reframing techniques may not fully counteract framing effects, but reframing techniques should enable taxpayers to perceive at least a portion of the costs of taxation.<sup>118</sup> And perceiving even a portion of these costs should affect taxpayer behavior for sufficiently large tax liabilities.

Consequently, my intuition suggests that the potential for governments to employ low-salience tax designs depends largely on whether conditions are conducive to taxpayer learning. Where conditions are not conducive to learning, governments may have wide discretion to manipulate both forms of tax salience. Deficit financing is perhaps the most obvious example. Learning about deficit financing is hindered by delayed payoffs, bundled consumption, and false signals.<sup>119</sup> As such, taxpayers may not learn to incorporate the effects of deficit financing into their market or political decisions, even if governments engage in massive use of deficit financing.<sup>120</sup>

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116. The easier it is for taxpayers to learn from experience, the less costly de-biasing is likely to be.

117. When faced with important decisions with large consequences, taxpayers should often be more likely to take the time and incur the costs of seeking expert advice or otherwise acting so as to counteract salience effects.

118. For instance, anchoring biases function through taxpayers under-adjusting to new information. As under-adjustment does not imply non-adjustment, new information still partially improves taxpayers' understandings of tax prices.

119. The negative effects of unsustainable deficit financing are not felt until long after the initial use of deficit financing; the impacts of deficit financing are intermingled with numerous other economic policy choices and with the effects of the political dynamics that first led to the deficit financing. Also, deficit financing may produce false signals when the impact of deficit financing is entangled with the effects of the economic cycle.

120. Whether bond markets can be fooled as easily as voters is another question.

In contrast, I expect that governments are more limited in their ability to reduce market salience through the use of retail sales taxes or to reduce political salience through the use of indirect taxes. If sales-tax rates were made high enough, I expect that consumers would take greater note of the additional sales-tax charges added at store registers. And evidence from comparing voter opinions across time periods and jurisdictions supports our expectation that increasing the use of indirect taxes heightens voter attention to these taxes.<sup>121</sup>

None of this is to suggest that governments cannot reduce tax salience when the environment is conducive to taxpayer learning or that governments can completely reduce tax salience when the environment is not conducive to learning. The impact of taxpayer learning is a matter of degrees, not absolutes. I have argued that both the size of a tax liability and the conduciveness of an environment to taxpayer learning tend to inhibit the effectiveness of tax-design techniques aimed at reducing market or political salience. However, the magnitudes of these effects remain unanswered empirical questions.

### C. Aversion to Being Manipulated

Further underscoring the complexity of how tax salience plays out in the real world, there is ample evidence from the consumer behavior literature that consumers react negatively if they perceive themselves as being manipulated. For instance, field studies have shown that the impact of price-presentation techniques can disappear if consumers become skeptical of vendors' intentions or come to believe that vendors are using misleading price-presentation strategies.<sup>122</sup> More generally, the empirical evidence suggests that moderate use of techniques for reducing price salience is often more effective than high use—as high use can lead to consumer backlash.<sup>123</sup>

As applied to tax salience, these findings imply that taxpayers' perceptions of being manipulated place an additional limiting factor on techniques for reducing both the market and political salience of taxation. If taxpayers come to believe that the government is actively trying to reduce the market salience of taxes, the taxpayers may begin to look through devices for reducing market salience or even to anticipate non-salient ("hidden") taxes where none are present. If

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121. CAMPBELL, *supra* note 102.

122. Robert M. Schindler, Maureen Morrin & Nada Nasr Bechwati, *Shipping Charges and Shipping-Charge Skepticism: Implications for Direct Marketers' Pricing Formats*, 19 J. INTERACTIVE MARKETING 41, 44-45 (2005); Morwitz et al., *supra* note 40, at 20.

123. Yih Hwai Lee & Cheng Yuen Han, *Partitioned Pricing in Advertising: Effects on Brand and Retailer Attitudes*, 13 MARKETING LETTERS 27, 28-29 (2002); Shibin Sheng, Yeqing Bao & Yue Pan, *Partitioning or Bundling? Perceived Fairness of the Surcharge Makes a Difference*, 24 PSYCHOL. & MARKETING 1025, 1039 (2007); Morwitz et al., *supra* note 40, at 26-27.

taxpayers perceive the government as attempting to reduce the political salience of taxation, taxpayers may become more resistant to supporting taxes (or to supporting politicians who favor taxes) in their voting decisions.<sup>124</sup> Moreover, taxpayers' aversion to being manipulated through market-salience techniques can affect the taxpayers' political decisionmaking, and vice versa. If taxpayers become hostile toward the governments' attempts to reduce the market salience of taxation, they may react against all taxes in their voting decisions. Conversely, if taxpayers becomes angry about the government's attempts to reduce the political salience of taxation, they may become more tax-averse (or less tax-accepting) in their market behavior.<sup>125</sup>

The empirical literature on aversion to being manipulated is almost entirely focused on how consumers respond to price-presentation techniques as employed by private-sector firms. Yet there is reason to suspect that aversion to being manipulated plays at least as strong a role with respect to tax salience. The media generally covers politics more attentively than it does the behavior of private-sector firms, and scandalous-seeming political behavior tends to make for good copy. This is not meant to suggest that governments are unable to employ techniques for reducing tax salience. Governments clearly do not design taxes to be as salient as possible.<sup>126</sup> However, as with private-sector firms, governments may find that moderate attempts to reduce tax salience are more effective than aggressive attempts, as the aggressive attempts may backfire.

Complicating matters, taxpayers' aversion to being manipulated may be more a function of the perceived intent behind government actions rather than a direct function of the design of the tax system. Hence, taxpayers' aversion to being manipulated does not necessarily play out differently depending on which of the three operative mechanisms is dominant. Whether taxpayers perceive themselves as being manipulated works somewhat independently of the mechanism by which taxpayers are (or are not) manipulated. Indeed, taxpayers' hostility may depend as much on how the media reports on tax-design techniques as on the nature of the techniques themselves. I therefore expect that governments have much greater scope for re-

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124. For an example of this phenomenon, see Adam Nagourney & David M. Herszenhorn, *Republicans Call Health Legislation a Tax Increase*, N.Y. TIMES (Oct. 2, 2009), [www.nytimes.com/2009/10/02/health/policy/02tax.html](http://www.nytimes.com/2009/10/02/health/policy/02tax.html) (describing Republican attacks on Obama's health care reform proposal based on allegations that the proposal contains "hidden" tax increases).

125. If hostility toward the use of political salience techniques engenders tax-averse preferences, taxpayers may be less likely to engage in taxable transactions or more likely to underreport their income or engage in other forms of tax evasion. For a discussion of the connection between tax salience and tax-averse preferences, see Gamage & Shanske, *supra* note 4, at 50.

126. See Krishna & Slemrod, *supra* note 38.

ducing tax salience when the techniques employed for doing so are primarily directed toward other purposes.

For instance, imagine what might happen were a future U.S. President to explicitly support an expansion of the Alternative Minimum Tax (AMT) on the grounds that the effective tax-rate hikes caused by expanding the AMT would be less salient to both voters and market participants than would raising income-tax rates directly. It is hard to imagine Congress approving an AMT expansion openly supported as a means of making the income tax less salient. But even if the expansion could be passed into law, we might expect that taxpayers' aversion to being manipulated would counteract much (if not all) of the salience-reducing effects of the AMT expansion.<sup>127</sup>

Conversely, imagine a future U.S. President supporting an AMT expansion with the stated goal of preventing high-income taxpayers from negating most of their tax liabilities through aggressive exploitation of tax credits and deductions.<sup>128</sup> The President's political opponents might claim that the true goal of the proposed AMT expansion was to reduce tax salience. But if taxpayers found the President's position credible—believing that the AMT expansion was actually intended to combat aggressive tax planning—the expansion would be far less likely to trigger taxpayers' aversion to being manipulated. All else being equal, attempts to reduce tax salience are more likely to be successful when the salience-reducing features of a tax reform are plausibly viewed as a side effect of a reform aimed at other purposes, rather than as the primary goal of the reform.

Taxpayers' aversion to being manipulated should generally work in concert with the other limiting factors—the size of a tax liability and learning from experience. After all, taxpayers can only react against the use of salience-reducing techniques if they know that these techniques are being employed. The larger the size of a tax liability, the more likely that taxpayers will take note of the tax liability and become averse to any salience-reducing techniques used to obscure it. Similarly, the easier it is for taxpayers to learn about a salience-reducing technique through experience, the more likely that taxpayers will perceive themselves as being manipulated. Particularly when tax liabilities are large and conditions are conducive to

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127. Taxpayers' aversion to being manipulated could more than counteract the salience-reducing effects. If taxpayers' preferences became sufficiently more tax-averse, the AMT expansion could increase the market distortions caused by taxation. Similarly, if taxpayers became more distrustful of taxes in their role as voters, the AMT expansion might increase political resistance to taxation.

128. AMT has generally been supported on these grounds. See COMM. ON FIN., TAX EQUITY AND FISCAL RESPONSIBILITY ACT OF 1982, S. REP. NO. 97-494, at 108 (1982) ("The committee has amended the present minimum tax provisions applying to individuals with one overriding objective: no taxpayer with substantial economic income should be able to avoid all tax liability by using exclusions, deductions and credits.").

learning, governments may thus find that moderate use of techniques for reducing tax salience are more effective than high use.

## V. CONCLUSION

I have argued in this Essay (building on my prior article with Darien Shanske) that the existing tax salience literature is not yet sufficiently developed to offer concrete tax policy prescriptions. However, the literature on tax salience is advancing rapidly. I am thus hopeful that the tax salience literature will be made policy-ready before too long. Despite my conclusions about the state of the existing literature, I remain optimistic that the study of tax salience will prove to be one of the most important paths through which future scholarly advances can guide the improvement of tax policy.

Importantly, that we currently lack the information needed to predict with confidence the circumstances in which tax salience effects are likely to manifest does *not* imply that normative scholars should simply ignore the possibility of tax salience effects. Normative prescriptions that hold only in the absence of tax salience effects are just as likely to prove erroneous as are prescriptions that are based on the assumption that tax salience effects will strongly manifest despite the possibility of limiting factors.<sup>129</sup> The available evidence suggests that tax salience effects are real and that these effects are potentially important in at least some policy contexts.

Instead, humility is the appropriate reaction to the nascent state of the tax salience literature. There is currently little that scholars can say with confidence about whether and when tax salience effects are likely to be important.

Hopefully, this Essay's analysis of potential operative mechanisms and limiting factors will aid in the development of a more refined literature on tax salience—a literature that may one day be capable of offering concrete policy recommendations. Moreover, although this Essay has focused on evaluating the circumstances under which tax salience effects are likely to manifest, this Essay's analysis may also aid the development of the literature on the normative implications of tax salience. When taxpayers' expressed preferences are manipu-

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129. For instance, a number of influential arguments based on optimal tax theory assume that taxpayers will make labor decisions based on fully factoring in the price implications of excise taxes, capital-income taxes, and other tax and regulatory burdens that reduce the purchasing power of the money that taxpayers earn. Yet as Christine Jolls has speculated, it seems plausible to me that in many contexts these price effects may be significantly less salient for these decisions than are labor-income taxes. For further discussion, see Christine Jolls, *Behavioral Economics Analysis of Redistributive Legal Rules*, 51 VAND. L. REV. 1653, 1669-73 (1998); David Gamage, On Double-Distortion Arguments, Distribution Policy, and the Optimal Choice of Tax Instruments II.B.4 (Sept. 25, 2013) (unpublished manuscript) (on file with the author).

lable through salience effects, the question arises as to what are taxpayers' "true preferences"—which of the multiple possible sets of expressed preferences should be most respected? These questions are especially important with respect to political salience, under the thought that democratic institutions should be designed so as to respect voters' desires. But these questions also arise with respect to market salience, to the extent that policies are designed based on divergences between taxpayers' market decisions and taxpayers' preferences regarding the consequences of their market decisions. For these sorts of questions, assessing the normative implications of salience effects requires understanding the operative mechanisms underlying them.

In any case, it is my hope that by the bicentennial anniversary of the income tax,<sup>130</sup> scholarly literature building on the currently nascent study of tax salience will have dramatically improved our understanding of how taxpayers respond to taxation. Models based on perfect economic rationality have generated powerful insights. But there can be little doubt that taxpayer behavior often departs from the assumption of perfect economic rationality. Ultimately, the study of tax salience must be a key part of our examination of taxpayer behavior. Even if we do not yet have the tools to answer fully questions related to tax salience, the importance of these questions demands continued scholarly attention.

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130. Of course, this is assuming that the income tax survives for another hundred years. But even if the U.S. income tax no longer exists—or even if the U.S. no longer exists—we can reasonably expect that taxation will probably still exist one hundred years from now and that it will thus remain important to understand taxpayer behavior.

