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Salience and Sin:

Designing Taxes in the New Sin Era

*Rachelle Holmes Perkins**

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Tax salience reflects the extent to which consumers take into account the after-tax cost of a good or service prior to making their consumption decision. Recent empirical work on tax salience has revealed something that is perhaps intuitive but nevertheless important to the design of sin taxes: taxpayers are more likely to make consumption decisions based on pre-tax rather than post-tax prices when the salience, or visibility, of a tax is diminished. Thus, consumers are less likely to change their demand for a particular product if shelf prices are tax-exclusive rather than tax-inclusive. Economically, this makes low salience taxes mimic some of the benefits of taxes on inelastically demanded goods. Because a taxpayer's demand change in response to a tax increase is diminished, the deadweight loss generated by the imposition of the tax can be reduced. Notwithstanding the potential for efficiency gains, politicians and academics alike have expressed various fairness, distributional, and normative concerns regarding the use of low salience taxes. In fact, a number of countries already require tax-inclusive pricing for consumer products in order to purportedly preserve consumer awareness and transparency.

In contrast, I argue that lawmakers should not rush to reject tax-exclusive pricing outright and should continue to explore the benefits of low salience taxes in select situations. To the extent lawmakers are able to minimize economic distortions, the concerns that have been expressed are not always fatal. I develop a new analytical rubric for tax salience and determine that the appropriate use of salience for any particular tax is dependent on a number of factors. These factors include the price elasticity of demand, the potential for countervailing income effects, and whether the tax is intended to raise revenue or modify taxpayer behavior. As a normative matter, I find that selectively implemented low salience taxes can be beneficial. However, I do not believe they should be universally implemented in sin tax design. In fact, in another expansion on the current literature, I argue that in certain situations lawmakers may best benefit from high salience taxes. I propose that these taxes may have efficiency benefits when lawmakers are seeking to influence taxpayer behavior. Ultimately, while it is difficult to draw definitive conclusions regarding the optimal use of tax salience given that many empirical and theoretical aspects of salience have yet to be developed, the empirical work done to-date suggests that the impact of tax salience on tax design may be significant and is worth exploring.

I. INTRODUCTION

Over the past few years, two separate but important trends have emerged in tax law. First, the implementation of sin taxes, or taxes on behaviors that are deemed to be socially undesirable, has rapidly expanded at all levels of government. In fact, most increases in state budgets are now in the form of sin taxes.[1] While sin taxes on alcohol and tobacco are longstanding fixtures in the U.S. economic system,[2] in this new sin tax era legislators are rapidly expanding both the scope and magnitude of their taxing powers.[3] In addition to responding to mounting budgetary pressures to raise revenue, some legislators are also turning to sin taxes in hopes of modifying undesirable taxpayer behaviors on the basis of theories advanced by the new surge of behavioral economists.[4] Regardless of their purported or true motivations, lawmakers have now extended their taxing powers well beyond the traditional "sins" of smoking and drinking and are now imposing levies on everything from tanning to strip clubs.[5] As used herein, the term "sin taxes" refers not only to the traditional taxes on cigarettes and alcohol, but also to this extended new class of sin taxes, whether imposed in the form of an excise or sales tax and whether intended to raise revenue or modify taxpayer behavior. Moreover, while this Article explores the impact of salience on this new expanded class of sin taxes, the analysis and

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1. Rachel E. Morse, *Resisting the Path of Least Resistance: Why the Texas "Pole Tax" and the New Class of Modern Sin Taxes are Bad Policy*, 29 B.C. THIRD WORLD L.J. 189, 198 (2009) (citing DANIEL CLIFTON & ELIZABETH KARASMEIGHAN, AMERICANS FOR TAX REFORM, STATE TAX TRENDS OVER TWENTY-FIVE YEARS: TAX INCREASES DOWN, REVENUE SOURCES SHIFTING 5, at 2–4 (2006), *available at* http://heartland.org/sites/all/modules/custom/heartland_migration/files/pdfs/20327.pdf.).

2. Sin taxes first appeared as temporary taxes on alcohol to fund the U.S. treasury during wartime. For a detailed discussion of the history of sin taxes, see Jendi B. Reiter, *Citizens or Sinners? The Economic and Political Inequity of "Sin Taxes" on Alcohol and Tobacco Products*, 29 COLUM. J.L. & SOC. PROBS. 443 (1996).

3. *See* Part II *infra*.

4. *See, e.g.*, Ted O'Donoghue & Matthew Rabin, *Studying Optimal Paternalism, Illustrated by a Model of Sin Taxes*, 93 AM. ECON. REV. 186 (2003); Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism Is Not an Oxymoron*, 70 U. CHI. L. REV. 1159 (2003); Jonathan Gruber & Botond Köszegi, *Is Addiction "Rational"? Theory and Evidence*, 116 Q. J. ECON. 1261 (2001).

5. *See generally* Bruce Bartlett, *Taxing Sin: A Win-Win for Everyone?*, 128 TAX NOTES 1289 (Sept. 20, 2010); *Tough Times Boost Push for Taxes on Porn, Strip Clubs*, THE ASSOCIATED PRESS, Feb. 27, 2009.

conclusions throughout can easily be applied to any form of excise or sales tax, whether or not it falls directly within the sin rubric.

Second, the burgeoning field of behavioral economics has begun to yield important empirical and theoretical work regarding the impact of tax salience.[6] Tax salience, as the term is used in this Article, represents the extent to which the presentation of a tax affects how the taxpayer integrates the after-tax price of goods and services into his or her consumption decision.[7] Levels of tax salience can be thought of as existing on a sliding scale ranging from low to high, with full (or neutral) salience lying somewhere in between. As applied in the context of sin taxes, sales taxes, which are generally imposed at the register, represent a low salience implementation of a tax. Even though a consumer may know the applicable sales tax rate, unless he or she undertakes to calculate the tax on the spot, the ultimate after-tax cost of the product will not be explicitly provided until he or she pays for the good. Excise taxes, which are typically included in the shelf price of a product, represent a fully salient implementation of a tax. Prior to purchasing a good, a consumer can fully account for the total cost of the product, including the applicable tax. Non-reusable bag taxes, which are now in place in any number of localities nationwide, are typically explicitly imposed at the register and can reflect a high level of salience.[8] In many instances, consumers must explicitly affirm the use and number of bags they would like to use and are then charged for the bags accordingly.[9]

6. *See, e.g.*, Raj Chetty, Adam Looney & Kory Kroft, *Salience and Taxation: Theory and Evidence*, 99 AM. ECON. REV. 1145 (2009); Amy Finkelstein, *EZ-Tax: Tax Salience and Tax Rates*, 124 Q.J. ECON. 969 (2009); Brian Galle, *Hidden Taxes*, 87 WASH. U. L. REV. 59 (2009); David Gamage & Darien Shanske, *Three Essays on Tax Salience: Market Salience and Political Salience*, 65 TAX L. REV. 19 (2011); Deborah H. Schenk, *Exploiting the Salience Bias in Designing Taxes*, 28 YALE J. ON REG. 253 (2011); Jacob Goldin, *Optimal Tax Salience* (2012), *available at* http://ssrn.com/abstract=2009108.

7. *See* Gamage & Shanske, *supra* note 6, at 23. This is to be distinguished from political and other forms of salience, which are also found in the tax salience literature. *Id.* at 20 (defining "political salience" as how "tax presentation affects voting behavior and political outcomes").

8. For a more complete discussion of high salience taxes, see Part III.C *infra*.

9. For example, this process is used in Washington, D.C., where consumers are charged five cents for every disposable bag that they use at the grocery store. At checkout, consumers are first asked whether they will be using any disposable plastic bags or whether they brought their own. If the consumer wants to use the store's plastic bags, he or she is notified that the bags are five cents each and the number of bags used is then counted and the tax is assessed as an add-on to the consumer's total purchase.

The level of tax salience may significantly impact a taxpayer's response to the imposition of the tax. While additional research must be done before definitive conclusions can be reached, preliminary evidence suggests that taxpayers systematically perceive their tax cost as being less or more than their actual cost depending on the tax's salience level.[10] For example, suppose a good has a pre-tax price of $1.79 and is subject to a tax of 10 cents. Tax salience literature suggests that consumers faced with a shelf tax-exclusive price of $1.79 coupled with a sales tax of 10 cents later added at the register will respond less to the imposition of the tax than they would to a shelf tax-inclusive price of $1.89. This holds true even if they are fully aware that their purchase is subject to a tax of 10 cents in both scenarios. In other words, the lower the tax salience, the less responsive the taxpayer will be to the imposition of the tax and *vice versa*.

These findings are important because they imply that not all similarly priced taxes will change taxpayer behavior equally, and thus modify important assumptions found in public finance models.[11] It is typically assumed that individuals optimize fully with respect to taxes.[12] This central principle, however, depends in part on the assumption that the taxes imposed are fully salient—that is, taxpayers will respond to changes in taxes in the same way they respond to changes in price.[13] This is important because economic models assume that when taxes are imposed, taxpayers and suppliers will modify their behavior in an effort to avoid the tax, and thereby generate inefficiencies. However, the tax salience literature finds that if tax salience is lowered, taxpayers will dampen their response to changes in the after-tax price of goods, potentially resulting in fewer distortive economic effects.[14]

Despite the potential for efficiency gains, politicians, academics, and economists have expressed concerns about the use of "hidden" or less salient taxes.[15] Even the label of so-called hidden taxes has a

10. *See* Chetty et al., *supra* note 6, at 1165; Finkelstein, *supra* note 6, at 971; *see also* Gamage & Shanske, *supra* note 6, at 24; Goldin, *supra* note 6, at 2.

11. Chetty et al., *supra* note 6, at 1148; Gamage & Shanske, *supra* note 6, at 26.

12. Chetty et al., *supra* note 6, at 1145.

13. *Id.*

14. *Id.* at 1172–73; Goldin, *supra* note 6, at 3; Gamage & Shanske, *supra* note 6, at 61–62; *See also* Galle, *supra* note 6, at 77–78.

15. Galle, *supra* note 6, at 112; Lilian Faulhaber, *The Hidden Limits of the Charitable*

pejorative connotation. Arguments against the use of low salience taxes range from intuitions about general concepts of fairness to concerns about potential distortionary income and distributional effects.[16] Indeed, a number of other countries actually require tax-inclusive pricing on consumer goods.[17] Even here in the United States, last year the Department of Transportation mandated that airlines begin including taxes in their advertised ticket prices on the theory that the airlines were hiding the true cost of air travel from consumers.[18]

Notwithstanding the growing tide against low salience pricing models for consumer goods, I join the small minority of scholars, such as David Gamage and Darien Shanske, that have begun to argue that to the extent lawmakers are able to minimize economic distortions, they should be able to exploit the benefits of low salience taxes.[19] In particular, I believe that none of the concerns raised to-date are fatal, and there is a potentially valuable use for tax salience in tax design. In an effort to advance the scholarly analysis in this area, in this Article I examine how the specific structure of sin taxes can best incorporate salience theory. I specifically expand on the existing literature by arguing that the efficacy of sin taxes will depend greatly on other related factors, including the likelihood of distortive income effects, the underlying elasticity of the targeted tax base, and whether the overall goal of the sin tax is to raise revenue or modify taxpayer behavior. In addition, while the current literature focuses exclusively on the benefits of taxes with low salience, which decrease a taxpayer's response to after-tax price changes, I also explore the potential benefits of high salience taxes, or changes in the presentation of taxes that heighten a taxpayer's reactions to increases in taxes.[20] I argue

Deduction: An Introduction to Hypersalience, 32 B.U. L. REV. 1307, 1308 (2012) (citing Edward J. McCaffery, *Cognitive Theory and Tax*, 41 UCLA L. REV. 1861, 1933–37 (1994)); Hayes Holderness, Note, *Price Includes Tax: Protecting Consumers From Tax-Exclusive Pricing*, 66 N.Y.U. ANN. SURV. AM. L. 783 (2011); Richard M. Bird, *Visibility and Accountability: Is Tax Inclusive Pricing a Good Thing?*, 58 CAN. TAX J. 63, 92 (2010).

16. *See* Chetty et al., *supra* note 6, at 1173–74.

17. *See* Holderness, *supra* note 15, at 783 (noting the European Union, Israel, and New Zealand all require tax-inclusive pricing).

18. The new rules went into effect January 26, 2012. *See generally* Press Release, U.S. Dep't of Transp. (Jan. 23, 2012), *available at* http://www.dot.gov/affairs/2012/dot0812.html.

19. Gamage & Shanske, *supra* note 6, at 60; Goldin, *supra* note 6, at 3.

20. I attach a different meaning to the term "high salience" from the one Lilian Faulhaber ascribes to "hypersalience." *See* Faulhaber, *supra* note 15, at 1309. Faulhaber defines

that, in certain situations, high salience taxes may also have the potential to lessen economic distortions, although this effect is much less clear given the potential countervailing substitution and replacement market effects.

Part II of this Article discusses the evolution of sin taxes in the United States. The use of sin taxes has expanded on national and state levels, including the escalation of taxes imposed on traditional sin behaviors as well as the rapid addition of new sin tax targets. Justifications for the imposition of sin taxes are also evolving. Part III reviews the recent empirical studies exploring the effects of tax salience. It also discusses the potential impact of tax salience on sin tax design, and addresses key concerns that have been raised. Part IV outlines a broad categorical framework for my recommended optimal exploitation of salience in the design of sin taxes, specifically focusing on sin taxes intended to raise revenue, Pigovian sin taxes, sin taxes intended to de-bias taxpayers, and sin taxes with a mixture of underlying motives. Part V concludes.

II. THE EVOLUTION OF SIN TAXES

A discussion of the evolution of sin taxes is important because it underscores the diverse nature of sin taxes. The scope of the sin tax base has grown dramatically. Theoretically speaking, taxpayers' responses to taxes on cigarettes that are intended to raise revenue cannot be expected to necessarily correlate with their responses to soda taxes that are intended to curb obesity. I believe that it is helpful to have a sense of the development of sin taxes in order to conduct a more robust examination of their potential interaction with tax salience.

A. The Legacy of Sin Taxes

The country's long legacy of sin taxes on alcohol and tobacco has helped pave the way for the evolution of its modern-day progeny. Perhaps the first example of a sin tax in the United States was the tax on the sale of whiskey that was passed at the urging of President George Washington's Secretary of the Treasury, Alexander

hypersalience as occurring "when a tax provision is fully—or almost fully—salient, but the limits restricting that provision's application are hidden, or less salient." *Id.* at 1309. Using the charitable deduction as her primary example, she claims that taxpayers overestimate the tax savings because they underestimate the limits restricting their ability to realize the savings.

Hamilton, in order to help pay off the national debt incurred during the Revolutionary War.[21] This tax, which was imposed as an excise tax on domestically distilled spirits, was the first tax levied by the national government on a domestic product, and ultimately led to the Whiskey Rebellion of 1791.[22] While primarily viewed as a revenue raiser, Secretary Hamilton also believed that it would work to instill "a measure of social discipline."[23]

A more permanent excise tax on alcohol was levied in 1862 in order to generate revenue to pay for the Civil War.[24] Although the tax was lowered at the end of the war, it remained in effect, even during Prohibition when the sale of alcohol was illegal.[25] Ironically, a primary reason for the end of Prohibition was the government's need to raise additional tax revenue as a result of the economic strain caused by the Great Depression.[26] The legalization of alcohol allowed the United States to revive one of its most dependable and substantial revenue bases.

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21. *See, e.g.*, Murray N. Rothbard, *The Whiskey Rebellion: A Model for Our Time?*, THE FREE MARKET (1994).

22. WILLIAM HOGELAND, THE WHISKEY REBELLION: GEORGE WASHINGTON, ALEXANDER HAMILTON, AND THE FRONTIER REBELS WHO CHALLENGED AMERICA'S NEWFOUND SOVEREIGNTY, 27 (NY Scribner 2006).

23. SAMUEL E. MORRISON, OXFORD HISTORY OF THE UNITED STATES 1778–1917, at 182 (1927). He also believed that it was a tax that would be the least objectionable to taxpayers and at the same time would help raise awareness about the negative effects of alcohol use. *See* HOGELAND, *supra* note 22, at 63; THOMAS P. SLAUGHTER, THE WHISKEY REBELLION: FRONTIER EPILOGUE TO THE AMERICAN REVOLUTION, at 100 (Oxford Univ. Press 1986).

24. Reiter, *supra* note 2, at 447 (citing Joint Comm. of the States to Study Alcoholic Beverage Laws, *Impact on Alcoholic Beverage Control of Taxation and Mark-Up: An Official Report* at 7 (1953)).

25. *Id.* at 448.

26. *Id.*; LEONARD V. HARRISON & ELIZABETH LAINE, AFTER REPEAL: A STUDY OF LIQUOR CONTROL ADMINISTRATION 173 (1936) ("The repeal of prohibition was brought about as much by the need for revenue as by the desire to eradicate the evils that grew out of that social experiment. The economic depression made it impossible for either federal or local governments to derive enough funds from the already over-burdened taxpayers. . . . It was readily recognized that legalized liquor provided a partial solution."). Today, a similar strategy has been contemplated in California with marijuana. A bill was introduced in California's state legislature to impose a $50 per ounce tax on marijuana, which if legalized, would become California's number one cash crop, bringing in over $1 billion a year in state taxes. *See generally* John Blackstone, *Pot Tax has $1.4B Potential in California*, CBS NEWS (Aug. 2, 2009), *available at* http://www.cbsnews.com/stories/2009/08/02/eveningnews/main5205369.shtml.

Excise taxes on alcohol, and eventually tobacco, continued to prove lucrative. They remained the government's primary source of revenue until 1913 when the Sixteenth Amendment to the United States Constitution was passed, authorizing the federal income tax.[27] Even today, the United States government raises substantial revenues from the excise taxes on alcohol and tobacco, yielding annual receipts of approximately $7.5 billion and $15.9 billion, respectively.[28] On the state and local level these excise taxes are just as lucrative, with alcohol generating almost $6 billion annually,[29] and tobacco products generating over $16.5 billion annually.[30]

While historically these taxes were primarily enacted as revenue raisers, the rationale for and discourse about these taxes have evolved over time. Today these taxes are primarily justified on moral and paternalistic grounds, and "[t]he increase in excise taxes on tobacco has mirrored society's condemnation of these products."[31] This evolution of the justification of the traditional sin taxes from primarily revenue-based, to primarily morality-based, has set the stage for the expansion of sin taxes to other areas where consumers are engaged in purportedly socially disapproved behaviors.[32]

27. The Sixteenth Amendment to the United States Constitution was ratified on February 3, 1913. *See also* David J. DePippo, *I'll Take My Sin Taxes Unwrapped and Maximized, with a Side of Inelasticity, Please*, 36 U. RICH. L. REV. 543, 546 (2002); Reiter, *supra* note 2, at 444; Chris L. Winstanley, *A Healthy Food Tax Credit: Moving away from the Fat Tax and Its Fault-Based Paradigm*, 86 OR. L. REV. 1151, 1168 (2007).

28. Alcohol and Tobacco Tax and Trade Bureau, *National Excise Tax Receipts*, *in* TTY FY 2012 BUDGET-IN-BRIEF, at 6, *available at* www.ttb.gov/pdf/budget/2012cj.pdf.

29. Tax Policy Center, *State and Local Alcoholic Beverage Tax Revenue, Selected Years 1977–2009* (Oct. 15, 2012), *available at* http://www.taxpolicycenter.org/taxfacts/displayafact.cfm?DocID=399&Topic2id=90&Topic3id=92.

30. *Id*. In 2009, thirty states imposed an excise tax on cigarettes at a rate equal to or greater than $1 per pack, with New York leading the way at $2.75 per pack. NATIONAL CONFERENCE OF STATE LEGISLATURES, 2009 PROPOSED STATE TOBACCO TAX INCREASE LEGISLATION (Apr. 27, 2009), *available at* http://www.ncsl.org/programs/health/Tobacco_Tax_bill09.htm#Federal09; Governor David Paterson, Executive Budget Presentation (Dec. 16, 2008), *available at* http://publications.budget.state.ny.us/eBudget0910/ExecutiveBudget.html.

31. Robert Creighton, Comment, *Fat Taxes: The New Manifestation of the Age-Old Excise Tax*, 31 J. LEGAL MED. 123, 126 (Jan.–Mar. 2010).

32. Bartlett, *supra* note 5 ("[I]n recent years, there have been many efforts to expand sin taxes to include other activities that are thought to be socially harmful—or perhaps just not socially favored.").

B. The Rise of Sin Taxes

The rise of sin taxes in the United States has been the product of a perfect storm of economic and political conditions. Record deficits and a struggling economy have placed legislators in the difficult position of having to fill government coffers with revenue from an anemic tax base that is determinedly resistant to income tax hikes. The worst recession since the 1930s resulted in a record federal deficit of $1.6 trillion for the 2011 budget fiscal year.[33] Although the deficit decreased during fiscal 2012, it still reached a staggering $1.1 trillion.[34] Likewise, the recent recession has resulted in the steepest decline in state tax receipts on record.[35] State tax collections, adjusted for inflation, are now twelve percent below pre-recession levels, while the need for state-funded services has increased.[36]

Lawmakers are faced with tough choices as they struggle to provide their constituents with basic services. Increasingly the solution to this budgetary quandary is sin taxes. Politicians have discovered that these taxes can serve as meaningful revenue raisers that garner significantly less widespread political resistance than traditional taxes, usually because the taxes are either not intended to apply to the majority of taxpayers, or because the tax is intended to promote some opposition-resistant social good.[37] Although general

33. *See* GOV'T PRINTING OFFICE, *Budget Totals*, *in* THE BUDGET FOR FISCAL YEAR 2012, Table S-1, *available at* http://www.gpo.gov/fdsys/pkg/BUDGET-2012-BUD/pdf/BUDGET-2012-BUD-29.pdf.

34. *Id*. *See also*, *CONGRESSIONAL BUDGET OFFICE, UPDATED BUDGET PROJECTIONS: FISCAL YEARS 2013 TO 2023* (May 2013), *available at* http://www.cbo.gov/sites/default/files/cbofiles/attachments/44172-Baseline2.pdf at 8.

35. ELIZABETH MCNICHOL ET AL., CENTER ON BUDGET AND POLICY PRIORITIES, *States Continue to Feel Recession's Impact* (Jan. 21, 2011) *available at* http://www.cbpp.org/cms/?fa=view&id=711#_ftn1. Even after making very deep spending cuts over the last two years, states continue to face large budget gaps. At least forty-six states struggled to close shortfalls when adopting budgets for the FY 2011, which began July 1 in most states. These came on top of the large deficits that forty-eight states faced in fiscal years 2009 and 2010. To balance their 2011 budgets, states had to address fiscal year 2011 gaps totaling $130 billion, or twenty percent of budgets in forty-six states.

36. *Id*. (citing Center on Budget and Policy Priorities analysis of Rockefeller Institute, Census Bureau, and Bureau of Labor Statistics data).

37. *See* Jordan E. Otero, *Banking on Sin: States Profit as Taxes Rise on Vice*, THE WASHINGTON TIMES, Oct. 26, 2011; Catherine Rampell, *For Cash-Strapped States, Sin Is Sure Lucrative*, N.Y. TIMES, Apr. 18, 2010, at WK5; Janet Novack, *Pole Dancing and Other Sins*, FORBES, May 10, 2010, at 28, 30; Cari Tuna & Justin Scheck, *Strapped States Find New Virtues in "Vice"*, WALL ST. J., May 11, 2010.

tax levies used to be the obvious answer to government deficits, "voters in every state have taken to rejecting tax hikes, directly, by voter referenda, or indirectly, by voting legislators out of office."[38] Because of this vigorous opposition to general tax increases, sin taxes are one of the few ways lawmakers have been able to raise revenue without widespread political backlash.[39] As a result, more lawmakers are turning to sin taxes in lieu of levying general broad-based taxes.

C. Expanding Sin Tax Base

National and state legislators have expanded both the scope and prevalence of sin taxes in two primary ways. First, lawmakers have significantly increased the already high sin taxes on alcohol and tobacco.[40] In February of 2009, President Obama signed a law that tripled the federal excise tax on tobacco products.[41] Since January 2009, at least twenty-two states have increased their tobacco taxes and seven states either enacted new taxes on alcohol or raised existing ones.[42] In fact, New Hampshire currently generates over one-third of its total tax revenue from excise taxes, with over eleven percent coming solely from cigarette taxes.[43]

Second, lawmakers have aggressively expanded the types of behaviors and activities that are taxed. They are both legalizing previously denounced behaviors in order to pull them into the tax

38. Morse, *supra* note 1, at 190–91 (citing Daniel Clifton & Elizabeth Karasmeighan, Americans for Tax Reform, *State Tax Trends over Twenty-Five Years: Tax Increases Down, Revenue Sources Shifting* 5, at 2–4 (2006), *available at* http://www.heartland.org/custom/semod_policybot/pdf/19711.pdf); Sandra Fabry, *Reliance on "Sin" Taxes Draws Opposition*, BUDGET & TAX NEWS, June 2005, *available at* http://www.heartland.org/policybot/results.html?articleid=17059.

39. Phineas Baxandall, *Taxing Habits: When it Comes to State Taxes, Sin is in*, FED. RES. BANK OF BOSTON REG'L REV., 1st Quarter 2003, at 19–26. This is not to say that no sin taxes face significant opposition. Many sin tax proposals have been defeated due to pressures by lobbyists and/or constituents. Nevertheless, the overall opposition is significantly less than what is typically faced upon proposal of a general tax hike.

40. *See supra* notes 30–32 and accompanying text.

41. Children's Health Insurance Program Reauthorization Act of 2009, Pub. L. No. 111-3, 123 STAT. 8 (2009); Brad Schiller, *Obama's Poor Tax*, WALL ST. J, Apr. 1, 2009, at A21, 25.

42. Robert Creighton, Comment, *Fat Taxes: The New Manifestation of the Age-Old Excise Tax*, 31 J. LEGAL MED., Jan.–Mar. 2010, at 123, 129.

43. Babak A. Rastgoufard, *Too Much Smoke and Not Enough Mirrors*, 36 URB. LAW 411, 417–18 (2004) (33.5 percent of New Hampshire's tax revenues are generated by excise taxes); Cindy Kibben, *N.H. Per-capita Excise Taxes Among Nation's Highest*, N.H. BUS. REV. (June 23, 2011).

base and making formerly benign activities more "sinful" in order to pull them within the sin tax rubric. Sin taxes are now aimed at consumers making any number of perceived unhealthy consumption choices,[44] including adult entertainment-related activities, eco-violations, and countless other purportedly undesirable products and services.

The most popular targets for new sin taxes are unhealthy consumption choices. Soda taxes, which are already currently in effect in over forty states, have been contemplated on a national level as well.[45] Taxes are also being levied on unhealthy things we do to our bodies. The 2010 Affordable Care Act included a ten percent federal tax on indoor tanning services.[46]

Often seen as an easy target in terms of garnering public support, adult entertainment establishments and pornographic materials have also become the subject of new sin taxes. Since 2004, Utah has had a ten percent state pole tax imposed on strip clubs.[47] A $5-per-customer tax on strip clubs went into effect in Texas in 2008.[48] It is

44. Whether it is fat taxes, soda taxes, sugar taxes, or tanning taxes, lawmakers are now eying unhealthy consumption choices as potential revenue bases. Interestingly, one of the first areas lawmakers targeted for sin-type taxes, outside of cigarettes and alcohol, was junk food. In fact, so-called "fat taxes" have existed in some form, albeit limited, since the 1920s. Chris L. Winstanley, *A Healthy Food Tax Credit: Moving Away from the Fat Tax and Its Fault-Based Paradigm*, 86 OR. L. REV. 1151, 1171 (2007). These original taxes, however, pre-dated most public health concerns relating to obesity and were viewed strictly as revenue-raisers. They included taxes on items such as soft drinks, candy, chips, and ice cream. *Id.* at 1171–72.

45. Kelly D. Brownell & Thomas R. Frieden, *Ounces of Prevention—The Public Policy Case for Taxes on Sugared Beverages*, 360 NEW ENG. J. MED. 1805, 1805 (2009).

46. 26 U.S.C. § 5000B (2012). The tax became effective July 1, 2010. According to the Joint Committee on Taxation, the tanning tax will raise an estimated $2.7 billion over ten years, and will help fund the $940 billion healthcare overhaul. JOINT COMM. ON TAXATION, JCX-61-09, *ESTIMATED REVENUE EFFECTS OF THE MANAGER'S AMENDMENT TO THE REVENUE PROVISIONS CONTAINED IN THE "PATIENT PROTECTION AND AFFORDABLE CARE ACT"* (Dec. 19, 2009), *available at*, http://www.jct.gov/publications.html?func=startdown&id=3641.

47. When originally enacted, the tax also applied to escort services, but the Utah Supreme Court struck down this portion of the bill as unconstitutional in 2009. Bushco v. Utah State Tax Comm'n, 225 P.3d 153 (Utah 2009), *cert. denied*, 131 S. Ct. 455 (2010).

48. TEX. BUS. & COM. CODE ANN. § 47(B) (West 2008). Right after the Texas pole tax took effect, the adult entertainment businesses in Texas filed suit charging that the tax violated their First Amendment right to freedom of expression. In March 2008, a Texas state district court judge ruled that the tax was indeed unconstitutional. However, the tax was upheld by the Texas Supreme Court. Combs v. Tex. Entm't Ass'n, Inc., 347 S.W.3d 277 (Tex. 2011), *cert. denied*, 132 S. Ct. 1146 (2012).

projected to raise $40 million of revenue per year for the state.[49] Illinois instituted a $3-per-customer tax effective January 2013.[50] At least three other states have contemplated similar proposals.[51]

The movement to "go green" has included a movement to target sin taxes at eco-unfriendly activities. So-called "eco-taxes" are being levied on behaviors such as paper and plastic bag use, bottled water consumption, and carbon emissions.[52] In fact, the disposable bag tax, first passed in the District of Columbia, is now proposed or enacted in at least thirty other jurisdictions.[53] While a few of these targeted activities may be able to fit into traditional concepts of "sinful" behavior, many include things that are not sinful *per se* but are instead judged by the majority to be unwise or undesirable.[54]

49. The proceeds are earmarked for causes such as helping the victims of sexual assault. Associated Press, *Texas Slaps "Pole Tax" on Strip Clubs to Benefit Rape Victims*, L.A. TIMES, Dec. 22, 2007; Emily Ramshaw, *Strip Bars May Face State Fees*, DALLAS MORNING NEWS, Feb. 13, 2007. For a detailed analysis of this tax see Morse, *supra* note 1.

50. Susanna Kim, *Illinois Governor Approves Strip Club "Skin Tax" to Fund Rape Crisis Center*, ABC NEWS, Aug. 20, 2012, *available at* http://abcnews.go.com/Business/illinois-passes-skin-tax-strip-clubs-joking-matter/story?id=17044255.

51. California has proposed a $10 per-customer tax. A.B. 2441, 2011–2012 Assemb. (Ca. 2012), http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab_2401-2450/ab_2441_bill_20120224_introduced.html. In Georgia, State Senator Jack Murphy proposed a $5-per-visit pole tax on patrons of strip club establishments, with the revenue going to fund new rehabilitation centers for teenage prostitutes. S.B. 91 passed committee, but was pulled from the floor on before getting a vote. *See Pole Tax Makes National News*, *available at* http://www.georgialegislativewatch.com/2009/03/23/pole-tax-makes-national-news/. Pennsylvania also proposed a $5 per-customer tax. *Pole Tax Proposed for Pennsylvania Strip Clubs*, YAHOO.COM (Feb. 20, 2008) http://voices.yahoo.com/pole-tax-proposed-pennsylvania-strip-clubs-1009791.html. *See also* http://www.salon.com/2012/05/27/taxing_strip_clubs_for_rape/.

52. Dan Shapley, *An Eco-Sin Tax on Bottled Water: Chicago and the 7 Sins of Bottled Water*, THE DAILY GREEN (Dec. 24, 2007), http://www.thedailygreen.com/environmental-news/latest/bottled-water-tax-47122402. In November 2006, voters in Boulder, Colorado passed what is proclaimed to be the first municipal "carbon tax" in the nation. City of Boulder, Colorado, *Boulder Voters Pass First Energy Tax in the Nation* (Nov. 8, 2006), http://web.archive.org/web/200703090850 15/http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=6136 &Itemid=169.

53. *See* FLA. DEP'T OF ENVTL. CONSERVATION, RETAIL BAGS REPORT FOR THE LEGISLATURE 3 (2010); L.A. COUNTY'S PLASTIC BAG WORKING GROUP, AN OVERVIEW OF CARRYOUT BAGS IN LOS ANGELES COUNTY 1 (2007). Justin Higginbottom, *Bag Taxes Disappointing in Debut*, TAX FOUNDATION (May 12, 2010), http://www.taxfoundation.org/publications/show/26285.html.

54. Bartlett, *supra* note 5, at 1289 ("In recent years, there have been many efforts to expand sin taxes to include other activities that are thought to be socially harmful—or perhaps just not socially favored.").

On the other end of the spectrum, lawmakers are attempting to legalize or expand the tax base for products or activities they have previously denounced or banned.[55] Several states have legalized gambling operations for the sole purpose of raising revenue from gambling taxes.[56] According to the National Council of State Legislatures, in the past few years, nineteen states have explored gambling-related proposals as a way to balance their budgets.[57]

Likewise, local and state lawmakers in Washington and Colorado have already targeted the legalization of marijuana as a significant source of tax revenue.[58] Washington State estimates it can generate as much as $1.9 billion in additional revenue in the first five years of its marijuana tax.[59] Colorado projects that it may be able to generate an additional $67 million in marijuana tax revenue.[60] Lawmakers in California have also proposed legalizing marijuana in order to bring in an estimated $1 billion a year in state taxes,[61] and other states have

55. This phenomenon is not new. A primary reason for the end of Prohibition was the government's need to raise additional tax revenue from the alcohol excise tax. *Id.* at 1290; LEONARD V. HARRISON & ELIZABETH LAINE, AFTER REPEAL: A STUDY OF LIQUOR CONTROL ADMINISTRATION 173 (1936).

56. Steven Malanga, *The State Gambling Addiction, available at* http://www.city-journal.org/2012/22_3_gambling.html. *See also* Dana Radcliffe, *Should States Raise Revenues by Expanding Legal Gambling?*, HUFFINGTON POST (Aug. 30, 2011), http://www.huffingtonpost.com/dana-radcliffe/should-states-raise-reven_b_942118.html.

57. Kristi Keck, *Strip Clubs, Marijuana Eyed During Budget Crunch*, CNN (July 28, 2009), http://articles.cnn.com/2009-07-28/politics/states.budget.crunch_1_budget-gaps-state-legislatures-taxes?_s=PM:POLITICS.

58. Indeed, a 2010 study from Cato Institute estimates that legalizing marijuana would generate $8.7 billion in federal and state tax revenue annually.

59. Office of Secretary of State, *I-502—Fiscal Impact Statement*, *available at* http://vote.wa.gov/guides/2012/I-502-Fiscal-Impact.html.

60. *See* Alison Vekshin, *Washington Races Colorado for Billions in Pat-tax Revenue*, BLOOMBERG, (Jun. 23, 2013), http://www.bloomberg.com/news/2013-06-24/washington-races-colorado-for-billions-in-pot-tax-revenue.html. Moreover, the City of Denver recently approved a five percent tax on recreational marijuana that is expected to generate $9.2 million in revenue. This is in addition to a potential fifteen percent state excise tax and a ten percent special sales tax. *See* Matt Ferner, *5 Percent Recreational Marijuana Tax Approved by Denver City Council*, HUFFINGTON POST, (Jul. 30, 2013), http://www.huffingtonpost.com/2013/07/30/denver-marijuana-tax_n_3676106.html. *See also*, Vekshin, *supra*.

61. A proposal in California would generate an estimated $1 billion a year in state taxes. *See* Stephen Easton, *Legalize Marijuana for Tax Revenue*, BUSINESS WEEK, http://www.business week.com/debateroom/archives/2010/03/legalize_marijuana_for_tax_revenue.html (last visited Sept. 17, 2013). *See also* Jake Neher, *Pot for Potholes? GOP State Lawmaker Wants Legal Marijuana to Pay for Roads*, MICHIGAN RADIO (Sept. 19, 2013)

begun to contemplate similar proposals. Medical marijuana already provides a substantial source of revenue for several states and cities.[62]

D. Expanding Sin Tax Justifications

In addition to merely addressing revenue-shortfall concerns, sin taxes are also used to influence taxpayer behavior. Historically, Pigovian-type sin taxes have been proposed in order to help people take into account the negative externalities their consumption behaviors produce.[63] By levying taxes that approximate the societal costs their consumption generates, taxpayers are forced to internalize the total cost of their behaviors, including the costs they do not bear directly. A Pigovian tax thereby alters the price of the underlying product or activity, decreasing its consumption to a socially optimal level. Pigovian taxes are viewed as an efficient way to correct negative externalities.[64] In the sin tax context, taxes on tobacco, alcohol, and fatty foods have been rationalized on Pigovian grounds.[65]

The rise of behavioral economics has given politicians another avenue to justify imposing new sin taxes on previously ignored behaviors. Behavioral economists believe that through the imposition of taxes regulators may be able to effectively "de-bias" individual decision-makers.[66] They argue that individuals are afflicted by

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http://michiganradio.org/post/pot-potholes-gop-state-lawmaker-wants-legal-marijuana-pay-roads (discussing proposal to legalize and tax marijuana in Michigan).

62. Michael Cooper, *Struggling Cities Turn to a Crop for Cash*, N.Y. TIMES, Feb. 12, 2012, at A22 *available at* www.nytimes.com/2012/02/12/us/cities-turn-to-a-crop-for-cash-medical-marijuana.html (discussing large medical marijuana tax revenues obtained in Oregon, Maine, Oakland, Denver, and Colorado Springs).

63. *See* William J. Baumol, *On Taxation and the Control of Externalities*, 62 AM. ECON. REV. 307, 307–08 (1972) (arguing that for externalities of the public goods variety, like pollution, Pigovian taxes are sufficient to achieve an efficient allocation of resources).

64. *Id.*

65. For example, smoking cigarettes is purported to generate any number of externalities, including second-hand smoke and increased public healthcare costs. *See also* Jeff Strnad, *Conceptualizing the "Fat Tax": The Role of Food Taxes in Developed Economies*, 78 S. CAL. L. REV. 1221, 1232 (July 2005) ("Engaging in risky dietary behavior creates externalities above and beyond the moral-hazard externality that follows from mandatory insurance coverage.").

66. *See* Sunstein & Thaler, *supra* note 4. Specifically, policymakers believe they have the ability to increase individual welfare by eliminating cognitive biases without limiting their choices. However, as more recent scholarship has persuasively argued, these behavioral economists are unable to prove that their proposed social and economic interventions are able to, in fact, either improve individual welfare or do so without affecting individual liberty. *See, e.g.*, Mario J. Rizzo & Douglas Glen Whitman, *The Knowledge Problem of New Paternalism*,

hyperbolic discounting, or present-bias, because they place too much weight on the present relative to the future.[67] As a result, individuals systematically make decisions today that their future selves would not want them to make. For example, individuals may "consume too much and exercise too little" in the present, even though the same individual, in hindsight, will wish that he or she had made more healthy decisions in the past.[68] Thus individuals, on their own, are not capable of making rational decisions that maximize their personal welfare. In order to correct these biases, some behavioral economists have proposed the imposition of sin taxes.[69] It is not at all evident that lawmakers will be able to make any de-biasing policy that is welfare improving.[70] Nevertheless, the growing push for these types

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2009 BYU L. REV. 905 (2009).

67. Rizzo & Whitman, *supra* note 666, at 912 (citing Ran Kivetz & Anat Keinan, *Repenting Hyperopia: An Analysis of Self-Control Regrets*, 33 J. CONSUMER RES. 273, 282 (2006); *id.* (citing Shane Frederick, George Loewenstein & Ted O'Donoghue, *Time Discounting and Time Preference: A Critical Review*, 40 J. ECON. LITERATURE 351, 393–94 (2002)).

68. *Id.*

69. A problem that has received a lot of attention from behavioral research scientists is the obesity epidemic. Approximately two-thirds of all American adults and nearly one-third of children are overweight or obese. Researchers publishing in the Archives of Internal Medicine recently suggested that taxes should be used as a weapon in the fight against obesity, citing findings that suggest that alterations to the prices of unhealthy foods could help steer U.S. consumers towards a more healthy diet. It has likewise been argued that sin taxes on food can serve as a "self-control device," aiding individuals in fighting the addictive nature of certain unhealthy foods. Kiyah J. Duffey et al., *Food Price and Diet and Health Outcomes: 20 Years of the CARDIA Study*, ARCHIVES INTERNAL MED., Mar. 2010, at 420. In studying the effect of food prices on unhealthy foods over a twenty-year period, they observed that a ten percent increase in cost was linked with a seven percent decrease in the amount of calories consumed from soda and a twelve percent decrease in calories consumed from pizza. They estimate that an eighteen percent tax on these foods could cut daily intake by fifty-six calories per person, resulting in a weight loss of five pounds per person per year. *Id. See also* Mitchell H. Katz & Rajiv Bhatia, *Food Surcharges and Subsidies: Putting Your Money Where Your Mouth Is*, ARCHIVES INTERNAL MED., Mar. 2010, at 405 (recommending unhealthy food tax as a way to help to correct a market that favors unhealthy food choices over healthier options).

70. As argued by Mario J. Rizzo and Douglas Glen Whitman, in order for lawmakers to be able to make any de-biasing policy that is welfare improving, they must achieve the formidable task of being able to:

> (1) identify agents' "true" preferences that are to be maximally satisfied; (2) determine the extent of each cognitive bias or decision-making problem; (3) properly account for privately adopted self-debiasing measures, as well as how paternalist policies would affect such measures; (4) deal with the problem of interdependent biases; (5) anticipate unraveling and unlearning effects; and (6) account for heterogeneity in the population with respect to all of these factors.

Rizzo & Whitman, *supra* note 666, at 910.

of tax-related fixes by behavioral economists and regulators provide another avenue for politicians to extend the already expanding sin tax base.

III. AN EXPLORATION OF TAX SALIENCE

Even though legislators are readily enacting new sin taxes, a key normative question remains: How can sin taxes be most efficiently structured? Traditional scholarship on sin taxes has focused on longstanding economic theories of supply, demand, elasticity, and externalities, all of which have provided a critical foundation for the examination of sin taxes.[71] From this literature, basic concepts of how taxes affect efficient markets have become imbedded principles in the tax discourse. Taxes are generally believed to generate deadweight losses as a result of taxpayers adjusting their behavior to avoid the tax. These traditional finance principles assume, however, that individuals fully optimize with respect to taxes they incur.[72]

An increasing amount of new empirical and theoretical scholarship on tax salience has focused on the previously asserted notion that not all similarly priced taxes will change taxpayer behaviors equally.[73] There is mounting empirical evidence that the salience of a tax will affect, at least in part, how an individual responds.[74] The less salient the tax, the less taxpayers will adjust their demand in response to increases in the after-tax price, resulting in fewer economic distortions.[75] To be clear, when I refer to salience, I am referring to so-called economic or market salience. This is to be distinguished from political and other forms of salience, which are also found in the tax salience literature.[76] Specifically, as used herein,

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71. *See, e.g.*, DePippo, *supra* note 27, at 546; W. Kip Viscusi, *Cigarette Taxation and the Social Consequences of Smoking*, TAX POL'Y AND THE ECON., no. 9, 1995 at 51; Baumol, *supra* note 63.

72. Chetty et. al., *supra* note 6, at 1145; Galle, *supra* note 6, at 66 (citing RICHARD A. MUSGRAVE & PEGGY B. MUSGRAVE, PUBLIC FINANCE IN THEORY AND PRACTICE (5th ed. 1989)).

73. *See, e.g.*, Galle, *supra* note 6, at 77 ("Where individuals do not fully perceive the burden of a tax, or where not all individuals perceive it, the total behavioral changes in response to the tax, whether in voting or consumption, are smaller."); *See also*, Gamage & Shanske, *supra* note 6; Chetty et al., *supra* note 6, at 1146; Finkelstein, *supra* note 6.

74. Chetty et al., *supra* note 6, at 1146; Finkelstein, *supra* note 6, at 971.

75. Chetty et al., *supra* note 6, at 1172–73; Goldin, *supra* note 6, at 3; Gamage & Shanske, *supra* note 6, at 61–62; Galle, *supra* note 6, at 77–78.

76. *See, e.g.*, Gamage & Shanske, *supra* note 6, at 20 (defining "political salience" as

tax salience refers to the effect the presentation of a potential tax has on a consumer's ability to take into account the full after-tax cost of the product or service prior to making a consumption decision. The salience of a sin tax will depend in large part on how the tax is implemented. A traditional sales tax has a low salience level, while an excise tax is generally fully salient (or salient neutral). For analytical purposes, I will assume a tax is fully salient to the extent that the taxpayer fully optimizes with respect to changes in the tax of the product in the same way he or she would respond to a change in the underlying price.

Instinctual and anecdotal notions about the impact of tax salience on taxpayer decision-making are not new.[77] However, the empirical evidence to support these intuitions has only begun to emerge over the past few years.[78] As suggested by the empirical literature discussed below, adjusting the salience of taxes can impact overall efficiency by reducing the deadweight loss associated with substitution effects. While the research in this area is still relatively underdeveloped, an examination of the findings to date reveals important assertions that may have a significant impact on sin tax design.

A. The Empirical Studies

Until recently, empirical work specifically testing the impact of tax salience has been missing from the salience literature.[79] In the seminal study on tax salience, Raj Chetty, Adam Looney, and Kory

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how "tax presentation affects voting behavior and political outcomes").

77. Galle, *supra* note 6, at 95 (citing James M. Buchanan, *The Fiscal Illusion*, *in* PUBLIC FINANCE IN DEMOCRATIC PROCESS: FISCAL INSTITUTIONS AND INDIVIDUAL CHOICE 135, 135 (1967)), (claiming "diminished visibility of taxes will increase the likelihood that individual taxpayers will free-ride on the efforts of others to oppose any tax increase").

78. Related to the work on tax salience is empirical work regarding price splitting, whereby total costs are split into their various components (such as shipping and handling and other fees and taxes). When total costs are portioned, consumers may underestimate the total value of their consumption. For review of this literature, see Galle *supra*, note 6, at 71, citing John M. Clark & Sidne G. Ward, *Consumer Behavior in Online Auctions: An Examination of Partitioned Prices on eBay*, 16 J. MARKETING THEORY & PRAC. 57, 57–66 (2008); Tanjim Hossain & John Morgan, *. . . Plus Shipping and Handling: Revenue (Non) Equivalence in Field Experiments on eBay*, 6 ADVANCES ECON. ANALYSIS & POL'Y 1, 1–4 (2006); Vicki G. Morwitz et al., *Divide and Prosper: Consumers' Reactions to Partitioned Prices*, 35 J. MARKETING RES. 453, 453–63 (1998).

79. Finkelstein, *supra* note 6, at 970 ("Empirical evidence of the impact of tax salience on tax rates . . . has proved extremely elusive.").

Croft examined the effect of salience on taxpayer behavior in two ways.[80] First, they studied the effect of posting more salient tax-inclusive prices at grocery stores. They modified the prices for 750 products at one Northern California grocery store to reflect their after-tax cost (the applicable sales tax rate was 7.375 percent) and over a three-week period compared changes in demand with two control groups.[81] One control group consisted of non-adjusted, pre-tax labeled similar products in the same aisle of the same store, and the other was pre-tax labeled control products at two other nearby stores.[82] They found that posting tax-inclusive prices reduced demand by roughly eight percent relative to the control groups.[83] They were also able to conclude that this difference was not attributable to taxpayer ignorance. The median customer was able to report the average sales tax rate within a half-percentage point of the actual rate and correctly report the tax status of seven out of eight products, even though only approximately thirty percent of all products in the store were subject to the local sales tax.[84]

Chetty, Looney, and Croft also observed overall changes in alcohol demand following state-level increases in excise taxes and state-level increases in sales taxes.[85] Excise taxes are levied at the wholesale level and are included in the shelf or restaurant menu price, whereas sales taxes are assessed at the register and are thus less salient.[86] They found that tax increases in the form of excise taxes reduced overall alcohol consumption significantly more than increases in sales taxes, further supporting the hypothesis that

80. Chetty et al., *supra* note 6.

81. *Id.* at 1146. The sales tax was applied to cosmetics, hair care accessories, and deodorant. *See id.* The original pre-tax sales tags were left unaltered, but new tax-inclusive sales tags were added directly below the original sales tags. *Id.*

82. *Id.* at 1152. The control products in the same store were similarly taxed personal products including toothpaste, skin care, and shaving products. The control stores were in nearby cities with demographics similar to the treatment store. *Id.*

83. *Id.* at 1146.

84. *Id.* at 1150, 1165.

85. *Id.* at 1158–64. The tax rates for wine, beer, and spirits may vary within states. The article presents results for beer consumption only, which accounts for the largest share of alcohol consumption in the United States. *Id.* at 1158. However, they ran a parallel analysis for a smaller subset of years and yielded similar results. *Id.*

86. *Id.* at 1158. Hawaii includes sales taxes in shelf prices and was thus excluded from the experiment. *Id.*

consumers do not always fully account for taxes not included in the shelf price when making consumption decisions.[87]

In another recent study, Amy Finkelstein examined the effect of the introduction of electronic toll collections on driver elasticity in the face of toll rate increases.[88] She found that drivers were significantly less responsive to increases in toll rates following the introduction of electronic tolls as compared to prior periods.[89] They were also less sensitive relative to other contemporaneous drivers that used manual toll collections.[90] In fact, she found that toll rates were twenty to forty percent higher than they would be without electronic toll collection.[91] Unlike the Chetty, Looney, and Croft study, however, she also observed that surveyed drivers from Massachusetts and New Jersey that used the electronic toll system were generally unaware of their toll costs.[92] In Massachusetts eighty-five percent of drivers that used electronic tolls incorrectly estimated their toll collections as compared to only thirty-one percent of cash-paying drivers.[93] Likewise, in New Jersey eighty-three percent of drivers that used electronic tolls incorrectly estimated their toll costs as compared to forty percent of cash payers.[94]

Finally, Kelly Gallagher and Erich Meuhlegger examined the impact of tax incentives on hybrid car sales.[95] In examining incentives offered by state governments between 2000 and 2006, they concluded that sales tax waivers had a greater than tenfold impact on sales than did similarly sized tax credits.[96] This finding is presumably

87. *Id.* at 1160. Specifically, they found that a one percent increase in the gross-of-excise-tax price is estimated to reduce beer consumption by 0.88 percent, whereas a one percent increase in the gross-of-sales-tax price is estimated to reduce beer consumption by 0.20 percent. *Id.*

88. Finkelstein, *supra* note 6.

89. *Id.* at 971.

90. *Id.*

91. *Id.* ("[W]hen the proportion of tolls paid using ETC has diffused to its steady state level of about 60 percent, toll rates are 20 to 40 percent higher than they would have been under a fully manual toll collection system.").

92. *Id.* at 980–81 (finding the awareness difference of toll costs between electronic and cash paying drivers to be both economically and statistically significant).

93. *Id.* at 981.

94. *Id.*

95. Kelly Sims Gallagher & Erich Muehlegger, *Giving Green to Get Green? Incentives and Consumer Adoption of Hybrid Vehicle Technology*, 61 J. ENVTL. ECON. & MGMT. 1 (2011).

96. *Id.* at 1, 9 (estimating that a $1,000 tax waiver is associated with a forty-five percent

consistent with the other tax salience studies because while the sales tax exemption directly affects the purchase price at the time of sale, the tax credit is not realized until the taxpayer later files his or her income tax return.[97] Due to the magnitude of the purchase, the overall price (including sales tax) is a focus for car shoppers to a significantly greater degree than with respect to regular purchases subject to sales tax. Thus, the hybrid sales tax exemption is relatively more salient than the hybrid tax credit.

Collectively, this empirical evidence suggests that consumers systematically under-respond to taxes that are not included in their list price. Taxpayers do not fully take into account taxes that have a lower salience and are more likely to make consumption decisions based on pre-tax prices. As a consequence, reducing the tax salience of sin taxes can reduce the substitution effects caused by the imposition of taxes.[98] In this way, imposing less salient taxes on consumer goods and services can yield similar efficiency benefits as imposing taxes on inelastic goods.[99] As compared to an equivalent higher salience tax, the less salient tax can have a lower deadweight loss.[100]

increase in hybrid vehicle sales, whereas a $1,000 dollar income tax credit is associated with a three percent increase in hybrid vehicle sales). Even when incentives are measured relative to vehicle MSRP, they find a sales tax waiver equal to one percent of the retail price results in an 8.3 percent increase in sales, whereas a comparable income tax credit is associated with a 0.6 percent increase in retail sales. *Id.*

97. *But see* Galle, *supra* note 6, at 76–77 (criticizing Gallagher's and Muehlegger's study for not controlling for any number of factors).

98. Gamage & Shanske, *supra* note 6, at 64; Goldin, *supra* note 6, at 10 ("[T]he less salient a tax is, the more it mutes consumer substitution away from the taxed good, thereby reducing the deadweight loss typically associated with non-lump-sum taxes.").

99. Galle, *supra* note 6, at 62. ("It follows that an unnoticed tax is, like a tax on highly inelastic behaviors, potentially more efficient than more obvious excises.").

100. One important point to mention is that even if society's overall welfare is improved through the reduction of deadweight loss, individual welfare may be diminished. That is, to the extent an individual overpays for a particular item because of the decreased salience of the tax, the individual's welfare is reduced. However, that reduction is offset by the increase in taxes collected by the government, so it theoretically balances out assuming tax revenues are not wasted. *Id.* at 79 (citing Raj Chetty et al., *Salience and Taxation: Theory and Evidence*, 1–2 (Nat'l Bureau of Econ.
Research, Working Paper No. 13330, 2007).

B. The Criticisms of Low-Salience Taxes

Notwithstanding the potential efficiency benefits that can be realized through the imposition of low salience taxes, several criticisms and countervailing considerations have been expressed, including notions of fairness, distribution concerns, and possibilities of distortionary income effects. In my view the most persuasive concern is the potential creation of distortionary income effects. However, none of these considerations appear fatal to the potential beneficial uses of low salience taxes.

1. Lack of transparency

First, general notions of fairness and consumer awareness have prompted several countries to implement mandated tax-inclusive shelf pricing for consumer goods.[101] The motivations behind these laws are expressed through general concerns regarding transparency and consumer awareness.[102] The E.U. Directive, for example, cites the assurance of "precise, transparent, and unambiguous information for consumers concerning prices" as the reason behind its law.[103] Recent U.S. legislation requiring airlines to include taxes in their advertised ticket prices is justified on similar grounds.[104] In relevant part, the press release from the U.S. Department of Transportation states:

> The new rules . . . will make it easier for passengers to determine the full price they will have to pay for air transportation prior to travel. Currently, airlines and ticket agents are allowed to publish ads that list government-imposed taxes and fees separately from the advertised fare, as long as these taxes and fees are assessed on a per-passenger basis. However, sometimes the notice of these taxes and fees is not obvious to consumers. Under the new requirements, all

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101. *See* Holderness, *supra* note 15, at 783 (noting the European Union, Israel, and New Zealand all require tax-inclusive pricing).

102. Jacob Nussim, *Taxes, Prices, and Consumer Protection* 5 (Bar-Ilan U. Pub. Law Working Paper, Jan. 20, 2009), *available at* http://ssrn.com/abstract=1397643 (citing Directive 98/6/E.C. of the European Parliament and of the Council (Feb. 16, 1998), Official Journal of the European Communities L80/27 (Mar. 18, 1998)).

103. Directive 98/6/E.C. of the European Parliament and of the Council (Feb. 16 1998).

104. Press Release, U.S. Dep't of Transp., *supra* note 18.

mandatory taxes and fees must be included together in the advertised fare.[105]

In other words, the regulators seemed concerned that the old pricing model was insufficiently transparent to consumers because the taxes were displayed in a low salience way.

I believe that these concerns are overstated. As articulated by Deborah Schenk, transparency and salience are not interchangeable concepts, and one can exist without the other.[106] The term "transparency" has come to mean many things in the political and academic discourse, although lack of transparency is almost always viewed negatively.[107] Lack of transparency generally occurs when the public lacks or is generally unaware of necessary information.[108]

Salience, on the other hand, does not necessarily depend on transparency.[109] Tax salience refers to the extent to which consumers take into account the after-tax cost of a good or service prior to making their consumption decision. It does not necessarily imply that they are not aware of the tax or that it is somehow "hidden" from them.[110] In fact, the two empirical studies that looked at consumer awareness were divided as to their findings as to the potential link between tax salience and transparency. Although the drivers in Finkelstein's study were generally unaware of the imposed tolls, in the Chetty, Looney, and Croft study the average consumer was aware of both the applicable tax rate and the tax status of the subject items.[111]

105. *Id.*

106. Schenk, *supra* note 6, at 256–58, 286.

107. *Id.*

108. *See id.* at 257 n.6 (citing Cheryl D. Block, *Pathologies at the Intersection of the Budget and Tax Legislative Process*, 43 B.C. L. REV. 863, 903 (2002) ("[T]ransparency surely requires that information be available to the public.")).

109. *Id.* at 286 (finding "so long as the [low salience] provisions [are] adopted publicly and their effect [can] be understood . . . , the transparency criterion [is] satisfied").

110. The nomenclature of "hidden" taxes has been used in the academic tax salience literature. *See, e.g.*, Galle, *supra* note 6. Several tax scholars have rejected this label because of its pejorative connotation. *See, e.g.*, Gamage & Shanske, *supra* note 6, at 24; Schenk, *supra* note 6, at 262–63.

111. *Compare* Finkelstein, *supra* note 6, at 696 ("[D]rivers are substantially less aware of tolls paid electronically."), *with* Chetty et. al., *supra* note 6, at 1147 ("[T]he customers kn[e]w what [was] taxed, but focus[ed] on the posted price when shopping. . . . The median individual correctly reported the tax status of seven out of the eight products on the survey.").

Even if, as a normative matter, transparency is determined to have an inherent social value that is worth preserving in spite of potential efficiency losses, the Chetty, et. al., study demonstrates that tax salience does not necessarily have to come at the expense of transparency. Overriding concerns regarding transparency can be best justified when consumers have no basis for computing the total price of a product because they lack the necessary information to do so. This is to be distinguished from adjusting the relative ease with which taxpayers are able to compute their ultimate tax liability, which is the effect of adjusting tax salience.

The average taxpayer in the Chetty, et. al., study evidently possessed the knowledge necessary to determine the after-tax cost of his or her purchases prior to checking out at the register. They merely chose not to do so, and this choice may have been entirely rational. For example, the cost to the taxpayer of determining the after-tax price of the product in terms of time and energy spent may have been outweighed by any potential benefit to the taxpayer of doing so.[112] Thus, without more substantial evidence regarding the correlation between low salience taxes and transparency, I do not believe general notions about consumer awareness should override the efficiency benefits of low salience taxes.

2. Distribution concerns

Concerns regarding the potential distribution effects of low salience taxes have also been raised.[113] Sin taxes have long been regarded as regressive, thereby disproportionally affecting low-income taxpayers.[114] For example, a $3 cigarette tax will represent a much higher percentage of a poorer person's income than it will of a wealthy person. This type of tax can violate general "ability-to-pay" principles, which dictate that taxes should be assessed in relation to the taxpayer's economic wealth or income.[115]

112. *See* Galle, *supra* note 6, at 100 ("[T]he taxpayer expects to come out ahead in terms of her well-being, on the assumption that the disutility of having to compute her tax is larger than the subjective present discounted value of the tax.").

113. *Id.* at 100–04.

114. *See, e.g.*, Andrew J. Haile, 82 TEMP. L. REV. 1041, 1050 n.49 (citing CONG. BUDGET OFFICE, U.S. CONG., HISTORICAL EFFECTIVE TAX RATES, 1979–1997, at 10 (2001) ("[E]xcise taxes claimed five times the share of income from the lowest-income households that they claimed from the highest-income households.").

115. *See* Mona L. Hymel, *Consumerism, Advertising, and the Role of Tax Policy*, 20 VA.

A concern is that if low salience taxes are used to further raise the dollar value of sin taxes, the regressive effect will be amplified. Although distributive goals play an important role in our tax system, I believe the potential incremental effects, if any, on distribution resulting from low salience can be mitigated. First, there is currently not enough data regarding the incidence of low salience taxes to make any conclusions regarding their distributive effects.[116] In fact, there is evidence that cuts both ways.[117]

There is reason to believe that low-income taxpayers are less susceptible to low salience taxes because they are more budget-constrained.[118] For example, suppose Taxpayer A and Taxpayer B are both planning to purchase a sin tax item that is subject to a low salience tax of $2 and has a pre-tax cost of $5. Suppose further that Taxpayer A is budget-constrained and only has $15 total left to spend for the rest of the month and Taxpayer B has $500 left to spend for the rest of the month. It seems logical to assume that Taxpayer A will be *more* likely to base his consumption decision on the after-tax price of the good than will Taxpayer B since the $7 after-tax price of the good will absorb almost half of Taxpayer A's remaining disposable income for the month. The cost of the calculation is much more likely to be outweighed by the benefit of knowing the final cost of the good. If this intuition is correct, then lower income taxpayers should be more likely to be unaffected by the salience level of taxes because they will have a greater interest in basing their decision on the after-tax cost of products.

TAX REV. 347, 359 (2000) ("*Fairness* in our tax system stands out as one of the most important criterion [sic].").

116. Galle, *supra* note 6, at 100 ("[T]here are gaping holes in our current information about the incidence of hidden taxes. First, we do not know for certain whether the behavior effects of hiding taxes are largely intentional or unintentional. Neither do we know, if taxpayers are acting mostly unintentionally, how taxpayers might adapt to their own shortcomings. Both questions are important to the distributive inquiry. Indeed, the distributional results would seem completely different depending on the answers."); Gamage & Shanske, *supra* note 6, at 78 ("The existing empirical literature does not provide cause for thinking there are strong negative distributional implications to reducing market salience.").

117. Galle, *supra* note 6, at 100; Gamage & Shanske, *supra* note 6, at 78.

118. Schenk, *supra* note 6, at 296 ("The conclusion that low-income taxpayers pay less attention to all low salience taxes is far from robust, and the evidence that exists cuts both ways. Although one might expect low-income taxpayers to be more attentive to low salience taxes because of their budget constraint, there is some evidence that, with respect to the purchase of certain consumer goods, they are not.").

Even if this intuition is incorrect, other adjustments can be made to counteract any actual distributive effects that lower salience taxes may cause. One solution could be to adjust the income tax rates to counteract any imbalance in the sin tax distribution.[119] For instance, to the extent that revenue bases from sin taxes are increased, the government could reduce the income tax burden on lower-income taxpayers. Another way to address distribution effects could be to implement a disproportionate amount of low salience taxes on goods targeted at high-income taxpayers. In any event, because the existence of a distributive problem has not yet been established, and solutions exist to counteract the effect if they do exist, I do not believe that distribution concerns defeat the case for low salience taxes.

3. Distortionary income effects

Finally, a countervailing efficiency effect of reducing tax salience is that it may cause distortionary income effects. The traditional neoclassic economic model assumes that taxpayers fully optimize with respect to taxes.[120] Income effects are usually disregarded because decreases in individual budgets are offset by increases in societal wealth.[121] With respect to an increase in low salience taxes, however, the concern is that taxpayers facing an overall lower budget may make optimization errors and misallocate their income among the goods they need to purchase.[122] An optimization error will occur if the taxpayer purchases a different mix of goods than he or she would if they were subject to a lump sum tax. Specifically, they may purchase luxury goods first and not have any remaining funds to purchase necessity items. If taxpayers are deprived of necessities, this will lead to distortionary income effects.[123] This concern is heightened for low salience taxes levied on budget-constrained consumers.[124] The overall magnitude of income effects will depend

119. *See* Gamage & Shanske, *supra* note 6, at 78.

120. Chetty et al., *supra* note 6, at 1145.

121. Gamage & Shanske, *supra* note 6, at 66.

122. Goldin, *supra* note 6, at 9.

123. Taxpayers' reduced consumption of high curved utility goods (i.e., necessities) in favor of less curved utility goods (i.e., luxuries) will result in a distortionary income effects and overall utility loss. Gamage & Shanske, *supra* note 6, at 67 n.223.

124. One potential counter-argument is that lower income taxpayers may be less subject

in part on how consumers adjust their consumption in response to their increased tax burden.

As modeled by Chetty, Looney and Kroft, taxpayers have three possible methods for adjusting their consumption in the face of budget constraints.[125] Let's assume that Taxpayer C plans to purchase N Goods (which are necessities such as food and shelter) and L Goods (which are luxury items such as a car and travel) in a particular month. In the face of budget constraints caused by low salience taxes, Taxpayer C may purchase N Goods first and then use her remaining funds to purchase L Goods. Consumers making budget adjustments under this model may not incur any distortionary income effects.[126]

Taxpayer C may instead, in anticipation of a lower overall budget, reduce both her consumption of N Goods and L Goods. Under this method, the resulting budget allocation may only yield minimal distortions, and any resulting utility losses should be outweighed by efficiency gains derived from decreased substitution effects.[127]

However, under the third model, Taxpayer C may purchase L Goods first and therefore be forced to significantly reduce her purchase of N Goods. In this case, Chetty, et al., conclude the resulting efficiency loss to Taxpayer C potentially could be greater than the deadweight loss of a fully salient tax.[128]

Although the results of a budget adjustment under the third model could potentially be fatal to any potential efficiency gains, Gamage and Shanske minimize these concerns. They argue that distortionary income effects should only defeat the benefits of low salience when low salience taxes are imposed on "irregular expenditures and activities of credit-constrained taxpayers" and "when there are long time delays between market choices and tax assessment."[129] With respect to sin taxes, the first of these concerns is most relevant. For example, low salience taxes should not be used on big-ticket items such as cars where the potential impact of an under-

to the salience bias because they are more conscious of their consumption costs. *See* Gamage & Shanske, *supra* note 6.

125. Chetty et al., *supra* note 6, at 1174.

126. *Id.*

127. *Id.*

128. *Id.*

129. Gamage & Shanske, *supra* note 6, at 67–68.

perception of taxes could cause a significant cash flow problem for a for a budget-constrained taxpayer.

Along similar lines, a recent economic model developed by Jacob Goldin suggests that as long as absolute tax values are small, the distortionary income effects resulting from reduced salience are second-order and are outweighed by the overall decrease in substitution effects and additional revenue raised.[130] He also finds that the optimal level of low salience tax is non-zero, even taking into account distortionary income effects.[131] This suggests that as long as the absolute value of a low salience sin tax is kept relatively small, then any distortionary income effects should be minimal. Thus, the concern of distortionary income effects should be able to be neutralized by not imposing high value, low salience taxes on goods and by not imposing low salience taxes on high value or irregular items.

Although the concern regarding distortionary income effects is significant, the situations in which they will overcome any offsetting efficiency gains from low salience taxes are limited and can be mitigated through tax design mechanisms. Although the tradeoff between reduced substitution effects and increased distortions from income effects must be considered, lawmakers should be able to structure taxes in a way to account for these effects and design taxes that capture the benefits of low salience.[132]

130. Goldin, *supra* note 6, at 11 ("[B]y making the tax a little less salient, the government can raise the same amount of revenue while reducing the tax's distortionary effects on consumption, thereby reducing the traditional source of excess burden. Although the reduction in salience does drive consumers to accidentally over-consume x relative to y, the utility cost of that optimization error is trivial when the tax is close to fully salient; because consumers facing a fully-salient tax align the marginal utility of expenditures on x and y, consuming a little too much x relative to the optimum will not generate much less utility than if the consumer had purchased y instead.").

131. *Id.* at 3.

132. Gamage & Shanske, *supra* note 6, at 65 ("[C]oncerns over distortionary income effects have been overemphasized; we argue that distortionary income effects are only likely to defeat the simple case for reducing market salience under a limited set of conditions—namely, either when taxes are imposed on irregular purchases made by credit-constrained taxpayers, or when there are long time delays between market decisions and tax assessments").

C. Other Elements of Salience

1. Overall levels of salience

In order to adequately examine tax salience, it is important to establish a baseline or definition of "full" salience. Consistent with terminology used by other scholars, I believe a tax is fully salient if the consumer fully takes into account the tax-inclusive price when making his or her consumption decision.[133] For example, suppose a bottle of soda has a pre-tax price of $1.79, and lawmakers would like to assess a sugary-beverage tax on the product of 10 cents per bottle. If the tax is implemented in the form of a typical excise tax, the shelf price will include the tax and be $1.89. Assuming no other sales or excise tax applies, this sugary-beverage tax would be considered fully salient because the tax is fully incorporated into the price presented to the consumer prior to purchase. Most traditional economic models assume that a taxpayer is responding to a fully salient tax.[134]

By contrast, if the tax is levied in the form of a sales tax and the ultimate cost is only presented to the taxpayer on his or her final receipt, this tax can be considered to have a relatively lower level of tax salience. That is, the likelihood of the taxpayer fully accounting for the true after-tax cost of the product prior to the purchase is diminished. That is not to say that the taxpayer is somehow unable to figure out the total after-tax cost prior to making a consumption decision. Rather it means, as evidenced by the empirical studies, that because the tax is less salient taxpayers will systematically under-account for the true after-tax price of the product when making their consumption decisions.[135] As a consequence, in certain situations lower salience taxes can be more efficient for purposes of raising revenue because they can reduce the deadweight loss generated by substitution effects.

Not only can a tax have low or full salience, I also argue that a tax can have high salience.[136] While a tax-inclusive shelf price would

133. *See, e.g.*, Chetty et al., *supra* note 6, at 1169.

134. *Id.* at 1145.

135. *Id.* at 1175.

136. I attach a different meaning to the term "high salience" from the one Lilian Faulhaber ascribes to "hypersalience." *See* Faulhaber, *supra* note 15, at 1309. She defines hypersalience as occurring "when a tax provision is fully—or almost fully—salient, but the limits restricting that provision's application are hidden, or less salient." *Id.* at 1309. Using the

reflect a fully salient tax, to the extent the tax is somehow further highlighted or presented to the consumer such that they over-account for its tax effect, then the tax would have a high level of salience. As a result, it is possible that the inverse conclusions reached with respect to low salience taxes may be true. That is, when faced with a high salience tax, taxpayers may over-adjust their demand relative to the actual price increase of the tax.

Although only anecdotal, evidence that this phenomenon may occur can be found in the implementation of the nation's first single-use bag tax in the District of Columbia. In 2010, lawmakers enacted a 5-cents-per-bag tax that was projected to bring the District $3.5 million in annual revenue. However, the decline in single-use bags greatly exceeded lawmakers' expectations, and revenue collections fell far short of projections. Bag use during the first month dropped from an average pre-tax monthly use of 22.5 million down to only 3.3 million.[137]

Although empirical work certainly would need to be done to substantiate this claim, one potential explanation for the drastic reduction in single use bags in the face of such a nominal tax is that they are levied in a highly salient manner. Consumers are forced to either directly affirm or help calculate their bag tax owed at the point of purchase. For example, at a grocery store or drugstore checkout, the consumer first has to affirmatively state (or respond yes to an inquiry) that he or she would like to use a plastic bag. Then either the taxpayer or cashier counts the total number of bags used and the consumer is charged five cents for each bag. If a taxpayer uses self-checkout, after the purchases are scanned, the computer will prompt him to enter the total number of bags used and calculate the tax accordingly. This method of taxation may be viewed as going beyond the full salience achieved by tax-inclusive shelf pricing. Not only are consumers aware of the total amount of tax they must pay, they also must affirmatively elect to pay, and perhaps help calculate, the tax.

charitable deduction as her primary example, she claims that taxpayers overestimate the tax savings because they underestimate the limits restricting their ability to realize the savings.

137. Justin Higginbottom, *Bag Taxes Disappointing in Debut*, TAX FOUNDATION (May 12, 2010), http://www.taxfoundation.org/publications/show/26285.html; Tim Craig, *Bag Tax Raises $150,000, but Far Fewer Bags Used*, WASH. POST (Mar. 29, 2010), *available at* http://voices.washingtonpost.com/dc/2010/03/bag_tax_raises_150000_but_far.html?wprss=dc.

While the demand for single-use bags is presumably quite elastic, there is reason to believe that other factors, in addition to price, caused the dramatic decline in demand. First, the eighty-five percent decline in a single month is dramatic in light of the relatively nominal charge of five cents. Even if a consumer used five plastic bags in a single visit, this would result in an additional twenty-five cents paid. Although typically passed in low salience forms, other similarly nominal tax increases on goods such as soda have resulted in a negligible decrease in consumption.[138] It is possible that other phenomena, such as the endowment effect or loss aversion are in play.[139] It is also plausible that because taxpayers are able to avoid the tax at the time of imposition (e.g., by carrying their groceries out without a bag even if they do not bring their own), that they more frequently opt out of the tax, even if they otherwise would have used plastic bags in the absence of a levy. Nevertheless, I argue that at least in part, the decrease in demand is caused by the highly salient nature of the tax.

2. Salience and elasticity

In addition to the overall level of tax salience, the efficacy of tax salience in sin tax design is also influenced by the underlying elasticity of the product being taxed. If a good or service is inelastic, then changes in price will have a relatively low effect on demand.[140] From an efficiency perspective, taxes on inelastic products will generate less deadweight loss than taxes on more elastic goods.[141] Taxes on inelastic goods can typically be sustained at higher absolute levels than their elastic counterparts. This may or may not result in higher overall collection amounts depending on the size of the levy and the size of the product base. By contrast, the demand for elastic goods can change significantly if the (perceived) price changes. Thus, under traditional public finance principles, taxes levied on elastic

138. Jason M. Fletcher, David E. Frisvold, Nathan Tefft, *The Effects of Soft Drink Taxes on Child and Adolescent Consumption and Weight Outcomes*, 94 J. OF PUB. ECON. 967, 972 (2010).

139. *See* Daniel Kahneman, Jack L. Knetsch, Richard H. Thaler, *Experimental Tests of the Endowment Effect and the Coase Theorem*, 98(6) J. OF POL. ECON. 1325, 1326–28 (1990).

140. *See, e.g.*, J. A. Mirrlees, *An Exploration in the Theory of Optimum Income Taxation*, 38 REV. ECON. STUD. 175, 175–208 (1971).

141. *Id.*

goods will generate a larger excess burden because consumers will more frequently alter their consumption decisions to avoid the tax.[142]

As a normative matter, it follows that the benefits of lower tax salience will be lessened to the extent that the taxed product is inelastically demanded. Deadweight losses are already minimized because customers are not significantly reacting to price changes. Conversely, with respect to elastic goods, the optimal tax salience may be lower. Lower salience can help to mute taxpayers' responses to the price change resulting from the tax, thereby yielding greater efficiency gains. A recently developed economic model by Jacob Goldin confirms this intuition.[143] He finds that optimal salience is lower for relatively elastic goods because the more readily consumers can substitute away from a specific good, the greater the welfare gain will be from reducing that substituting behavior.[144]

IV. A PROPOSAL FOR SALIENCE IN SIN TAX DESIGN

I believe that the recent empirical work regarding tax salience provides significant insight into the optimal design of sin taxes. In order to adequately assess the proper integration of salience into sin tax policy, I believe that the compounding factors and considerations discussed above need to be integrated into the analysis. Specifically, the optimal degree of tax salience will depend on the price elasticity demand for the taxed good or service and the underlying objective of the tax. Taking into account the economic implications of low, neutral, and high salience taxes as well as the impact of elasticity and revenue generation goals, my aim is to discuss the implications of using salience in sin tax design for four types of sin taxes: (i) sin taxes primarily intended to raise revenue; (ii) Pigovian sin taxes; (iii) sin taxes intended to de-bias taxpayers; and (iv) mixed-motive sin taxes that are levied with more than one underlying goal in mind. While these groupings are not intended to be rigid or precise, they are intended to depict general claims regarding the optimal structure of sin taxes.

142. Goldin, *supra* note 6, at 12.

143. *Id.*

144. *Id.*

A. Salience, Sin Taxes, and Revenue Generation

All taxes either have the intent to, or in fact do, raise revenue. That is the nature of a tax. When lawmakers propose to make broad-based tax increases, the motive is generally clear—the government needs additional revenue to fund its budget. Even though the vast majority of sin taxes are similarly revenue-motivated, an increasing number of them are motivated (or purportedly motivated) on behavioral grounds.[145]

However, sin taxes are primarily being used as budget gap fillers, and revenue generation is paramount. With respect to this goal, lowering the salience of a tax may help to increase the absolute amount of a tax without incurring any additional deadweight loss. Stated differently, if deadweight loss is held constant, a less salient tax should be able to be sustained at a higher absolute rate than its fully salient counterpart. Again, this intuition is similar to that employed with respect to taxes levied on inelastically demanded goods, which can be sustained at higher levels than those on more elastically demanded goods without generating additional deadweight losses.

As discussed above, when sin taxes are levied on inelastic products or services, the benefits of utilizing low salience methods are diminished.[146] Taxes on inelastic products already yield efficiency benefits vis-à-vis their elastic counterparts, because the diminished elasticity in taxpayer demand reduces substitution effects and deadweight loss. In terms of revenue generation, the more inelastic the good, the higher the absolute dollar amount of tax can be sustained without significant efficiency losses from substitution effects. Although low value taxes can certainly be imposed on inelastic goods, overall efficiency gains may be realized if taxes can be raised on inelastic goods and lowered on other more distortionary bases (e.g., the income tax), while still maintaining the same budgetary levels. Even though many taxes on inelastic products impact a smaller base, the revenue generation potential is nonetheless

145. In order to make the proposals more acceptable to the public, the focus or purpose of the tax is too often shifted away from the underlying revenue needs and onto the targeted behavior. For example, rather than simply state that the government is facing record deficits and will levy a tax on sodas to raise necessary funds, the bill will be shopped as a way to raise money to help fight obesity.

146. *See supra* Part III.C.2.

very high due to the higher absolute level of tax typically imposed.[147] In terms of the salience, due to the increased risk of income effects associated with high-value, low salience taxes, full salience design methods are likely optimal.[148] This will help prevent distortionary income effects from defeating any incremental efficiency gains that would be achieved by lowering the tax salience.

On the other hand, revenue-generating taxes on elastic goods have much more potential to benefit from a low salience structure. Lawmakers should be able to generate efficiency gains by lowering the salience and reducing taxpayer substitution effects. In order to mitigate the potential countervailing efficiency losses from distortionary income effects, the overall magnitude of the tax should be relatively low.[149] Even with relatively low salience, small observed price changes might induce taxpayers to substitute elastically demanded goods. Nevertheless, because of the potentially large tax base for most elastic goods, even nominal increases in low salience tax values should be able to raise substantial revenue and allow the government to reduce other more distortionary taxes.

B. Salience and Pigovian Taxes

On the other hand, the use of low salience taxes may not be as clear with respect to sin taxes that are being levied on behavioral grounds.[150] Pigovian taxes may need to be fully salient in order to strictly achieve their corrective goals.[151] Social welfare generally can

147. Lawmakers should take care not to make the sin tax too high. If the tax creates significant price differences in neighboring jurisdictions, it can trigger rampant smuggling and black markets. A classic example of this phenomenon is the New York City cigarette tax, where as the result of a nearly $3 per pack tax, the total cost of a pack of cigarettes is over $9. In 2007, counterfeit American cigarettes could be found for sale from street vendors and in variety stores in Chinatown for approximately $4.00 a pack, approximately half of the legal price. *See* Angelica Medaglia, *Cigarettes Are Costly, but Often Less So in Chinatown*, N.Y. TIMES, Sept. 18, 2007, at B2.

148. *See supra* Part III.B.3.

149. *Id.*; Goldin, *supra* note 6, at 9.

150. *See* Schenk, *supra* note 6, at 276 n.101 ("Low salience taxes or provisions would be counterproductive with respect to Pigovian taxes that are intended to change behavior."); Goldin, *supra* note 6, at 18 ("When consumption of x generates a negative (positive) externality, the optimal salience for taxes on x is higher (lower) than if no externality was present.").

151. Many sin taxes are ripe for a Pigovian justification because they target disfavored behaviors that produce some negative externality. For example, so-called fat taxes can purportedly be justified on Pigovian grounds. Jeff Strnad, *Conceptualizing the "Fat Tax": The*

be enhanced by imposing taxes equal to negative externalities—costs borne by persons other than the consumer making the decision.[152] The objective of a Pigovian tax is to force the consumers to internalize, through the increased after-tax price, the social cost of their consumption decision in order to reach an optimal level of consumption. If the consumer does not perceive the social cost of his action because the tax is not fully salient, the corrective potential of the Pigovian tax is undermined.[153]

In order to achieve its corrective goals, the value of a less salient Pigovian tax would need to be raised to the point where the consumer fully perceives the cost of his externalities and alters his or her consumption behavior to the socially optimal level. Doing so, however, would penalize the consumer by over-charging for the externalities he or she generates.[154] While making a precise determination of the Pigovian tax needed to make the consumer perfectly internalize her externalities is not necessarily feasible, when lawmakers significantly exceed the Pigovian-neutral point, the tax may become a mere revenue raiser at the expense of the Pigovian tax target and/or may over-reduce the optimal level of consumption. Even in this case, however, Pigovian taxes may improve overall efficiency if the increased revenue is used to decrease other distortive taxes, such as the income tax. It may be preferable to lawmakers to over-reduce negative externality producing behaviors than to over-reduce income.[155]

Role of Food Taxes in Developed Economies, 78 S. CAL. L. REV. 1221, 1232 (July 2005) ("Engaging in risky dietary behavior creates externalities above and beyond the moral-hazard externality that follows from mandatory insurance coverage.").

152. *See* William J. Baumol, *On Taxation and the Control of Externalities*, 62 AMER. ECON. REV. 307, 307–08 (1972) (arguing that for externalities of the public goods variety, like pollution, Pigovian taxes are sufficient to achieve an efficient allocation of resources).

153. "When a Pigovian tax increases social welfare by discouraging taxpayers from engaging in a particular activity, the government will face an additional efficiency cost to reducing the salience of that tax." Goldin, *supra* note 6, at 15. Conversely, when the taxed activity generates positive externalities, the efficiency benefits to relying on low salience taxes are greater than would otherwise be the case.

154. Despite the potential fairness concerns, Gamage and Shanske seem to be willing to make the tradeoff between low salience benefits and over-correcting for externalities. Gamage & Shanske, *supra* note 6, at 73 n.244.

155. *See infra* Part IV.D.

C. Salience and Taxpayer De-Biasing

In addition to addressing externalities, some taxes are proposed as a way to cure cognitive failures of consumers, who are unable to make consumption choices that maximize their individual welfare. Individuals have a bias towards getting benefits or rewards now and incurring costs later. This causes individuals to make present decisions that yield a current benefit but may cause long-term harm, even though the same individual, in hindsight, will wish that he or she had made a different choice.[156] In order to help individuals maximize their personal welfare, taxes are imposed to help them de-bias. Presumably, consumers will need to perceive a relative increase in the cost of the unhealthy good or service for the tax to have a de-biasing effect with respect to their consumption choices.[157] Thus, similar to the intuitions regarding Pigovian taxes, in order to truly affect consumer behavior, these taxes should also be implemented in more salient ways.[158]

With respect to behavioral economists' de-biasing objectives, taxes on inelastic goods would need to be fully salient. Because the demand for the product or service will be relatively insensitive to price changes, lawmakers also will need to use full salience design techniques in order for the taxpayer to modify his or her consumption behavior.[159] Thus, structurally they may be indistinguishable from purely revenue generating taxes on inelastic goods. With respect to elastic goods, salience also should be full. Because even small changes in the price can yield changes in demand, if taxpayers are fully aware of the imposed taxes, they will modify their behavior.

156. Rizzo & Whitman, *supra* note 66.

157. Goldin, *supra* note 6, at 19 ("For example, to reduce population weight, a number of states levy sales taxes on soda and/or candy while exempting other food purchases from the sales tax base. Although this approach may increase the true relative price of unhealthful foods, the analysis here suggests that such taxes would be more likely to generate the intended behavioral effects if they were designed in more salient ways.").

158. I am in no way endorsing the use or efficacy of these types of taxes. Rather, I am arguing that if these types of taxes are going to be implemented, in order to achieve their stated goal, they should be in more salient forms. In fact, with respect to sin taxes, it is not clear how lawmakers can devise specifically calibrated tax rules to counteract this flawed decision-making process on an individual level.

159. *See supra* Part III.C.2.

Sin taxes intended to de-bias taxpayers also present an opportunity to implement high salience taxes.[160] Indeed, this type of tax is arguably already being used to encourage taxpayers to decrease their use of environmentally unfriendly disposable plastic bags.[161] If the high salience presumptions discussed above are confirmed, taxpayers will over-adjust their demand relative to the actual price increase of the tax when faced with a high salience tax. If lawmakers are able to maximize the salience level of the tax, they should be able to achieve their desired behavioral goals at a relatively lower absolute tax rate.

Notwithstanding the potential for an overall smaller tax rate, the overall impact of high salience taxes on efficiency remains unclear. I am not making any normative claim about the desirability or efficacy of behaviorally motivated taxes. Rather I am positing whether to the extent that taxes are being implemented that are otherwise producing inefficiencies through their behavior distortions, those distortions may be able to be minimized by reducing their absolute dollar amount by increasing their level of salience. To the extent that these types of high salience techniques are used, in order to be welfare maximizing, countervailing concerns of substitution effects and replacement markets would also have to be taken into account. The overall balancing of the offsetting welfare increasing and decreasing effects would likely need to be conducted on a case-by-case basis.

When the imposition of sin taxes affects the after-tax price (or in the case of a high salience tax, the perceived after-tax price) of a good, some level of market reaction is expected to occur. Black markets may develop, industry participants and their employees may be significantly impacted, and replacement products or activities may generate new or additional harms. For instance, if a sin tax increase creates significant price differences in neighboring jurisdictions, it can trigger rampant smuggling and black markets.[162] This will harm local businesses in the sin tax market,

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160. A high salience tax would be less efficient as a revenue raiser because consumers would overreact to the levy by substituting away from the product to avoid the tax.

161. *See supra* Part III.C.1.

162. Robert A. Sirico, *Sin Taxes: Inferior Revenue Sources*, BUDGET & TAX NEWS, July 2004, *available at* http://news.heartland.org/newspaper-article/2004/07/01/sin-taxes-inferior-revenue-sources. A classic example of this phenomenon is the New York City cigarette tax, where as the result of a nearly $3 per pack tax, the total cost of a pack

which will lose customers to businesses in their neighboring jurisdictions and/or to local dealers in the black market. This can have the undesirable effect of reducing the local tax base, while not significantly affecting the consumption of the underlying good or achieving the underlying behavioral objective. Moreover, the public resources necessary to combat these illegal markets may further undercut the tax's ultimate revenue potential.[163] If taxpayers in fact systematically over-respond to high salience taxes, they may more readily resort to alternative markets to purchase their goods.

Another countervailing effect of high salience taxes may be an increase in the negative effects of substituting goods. When, in response to a sin tax, consumers choose to migrate to a replacement good, any number of consequences can occur. While the sin tax may influence people to stop engaging in one particular vice or disfavored activity, there is no guarantee that they will respond with mere abstinence or by replacing it with a less harmful substitute. In fact, there is evidence that in many situations equally, or even more, undesirable goods are consumed.[164]

For example, increased taxes on liquor can influence people to switch to drinking beer or hard drugs.[165] Research also shows that any attempts to impose sin taxes on food must be done with extreme care, because there is no guarantee that consumers will not consume even less healthful foods as replacements. For instance, consumption patterns suggest that if fat is taxed, then individuals may increase their salt intake, thereby placing themselves at a greater risk of high blood pressure and cardiovascular disease.[166] Taxes on sugary beverages may lead to the consumption of more diet beverages. Research has shown that artificial sweeteners can actually increase a person's risk of obesity,

of cigarettes is over $9. In 2007, counterfeit American cigarettes could be found for sale from street vendors and in variety stores in Chinatown for approximately $4 a pack, approximately half of the legal price. *See* Angelica Medaglia, *Cigarettes Are Costly, but Often Less So in Chinatown*, N.Y. TIMES, Sept. 18, 2007, at B2. In 2006, the New York Department of health conducted a survey of smokers in New York City, half of whom reported that they had purchased illegal cigarettes in the past year. *Id.*

163. Sirico, *supra* note 162.

164. This is particularly true when like vices face unequal tax burdens.

165. Sirico, *supra* note 162.

166. Oliver Mytton, et al., *Could Targeted Food Taxes Improve Health?* J. OF EPIDEMIOLOGY & COMMUNITY HEALTH 61, 689 (2007).

and long-term use can lead to other serious health problems.[167] Lawmakers cannot merely assume that soda will be replaced with water, and chips will be replaced with apples.

Even when a substitute product is anticipated or even encouraged by lawmakers, unforeseen consequences may still ensue. For example, the taxes on single-use plastic bags are intended to encourage consumers to use reusable bags instead; and these taxes have been very successful in inducing consumers to make these replacements.[168] However, new research is showing that the tradeoff of single-use bags for reusable bags may not achieve the anticipated environmental improvements. First, reusable bags themselves may be harmful. Many of these bags are made from non-recyclable materials and require far more energy to produce than single-use bags.[169] In addition, because in many cases they are not regularly cleaned, scientists have found that reusable bags can spread harmful contaminants such as e. coli and other bacteria, which can pose severe health risks to consumers.[170] Two recent studies have shown that reusable bags can also contain excessive amounts of lead.[171] Second, there are secondary uses of disposable plastic bags that, if eliminated, require equally undesirable replacements. Disposable plastic bags are often re-used in homes as trash liners, lunch bags, or to clean up after pets.[172] Evidence has shown that consumers still fill these needs, and instead buy

167. *See generally Artificial Sweeteners Linked to Weight Gain*, SCIENCEDAILY, Feb. 11, 2008, *available at* http://www.sciencedaily.com/releases/2008/02/080210183902.htm.

168. The Wall Street Journal reported in 2008, "reusable totes [are] the nation's fastest-growing fashion accessory, with sales this year up 76% to date over last year." Ellen Gamerman, *An Inconvenient Bag*, WALL ST. J. (Sept. 26, 2008), http://online.wsj.com/article/SB122238422541876879.html.

169. *Id.*

170. *See Reusable Grocery Bags Contaminated with E. Coli, Other Bacteria*, PHYSORG.COM (June 24, 2010), http://www.physorg.com/news196621909.html.

171. Kelly Zito, *Studies Find Lead in Reusable Shopping Bags*, THE SAN FRANCISCO CHRON. (Jan. 25, 2011), http://www.sfgate.com/news/article/Studies-find-lead-in-reusable-shopping-bags-2461560.php. ("Seventy-one polypropylene bags and inserts from 44 retailers, universities and government agencies were collected and tested by an accredited Seattle laboratory, Wilson said. Of those, 16 had lead levels above the 100 parts per million threshold that a coalition of state environmental agencies and industry groups consider harmful in product packaging.").

172. Higginbottom, *supra* note 53.

items such as trash can liners and pet bags, which are merely another form of disposable plastic bags.[173]

While these specific secondary effects relate to the sin tax on disposable plastic bags, the negative unintended consequences are not unique, but rather illustrative of a fundamental problem with sin taxes intended to modify taxpayer behaviors. Lawmakers must be very careful to mitigate any potential significant harmful market and efficiency effects when designing these types of sin taxes, even if they are levied at seemingly small or innocuous levels.

D. Salience and Mixed-Motive Sin Taxes

It is possible that lawmakers will support a sin tax on the basis of both behavioral modification and revenue generation grounds. That is, they may have mixed motives for their proposed sin tax. The amount of desirable salience in these situations is much less clear. This is particularly true when the relative importance of the goals is not known because the two goals can operate at cross-purposes. In structuring the tax, policymakers will have to balance wanting to discourage the undesirable behavior on the one hand and wanting to encourage it on the other in order to maintain or broaden their revenue base.[174] This potential vacillation muddles the theoretical analysis because, with respect to elastic goods for instance, although behavioral goals can be best achieved with full salience taxes, lower salience is typically preferable for revenue generation.

The existence of mixed-motive sin taxes is nearly inevitable and is often met with suspicion as to the true underlying objective of the lawmakers. As discussed above, sin taxes are being primarily used as budget gap fillers. However, in order to make the proposals more acceptable to the public, the focus or purpose of the tax is often shifted away from the underlying revenue needs and onto the targeted behavior. For example, rather than simply state that the government is facing record deficits and will levy a tax on sodas to raise necessary funds, the bill will be shopped as a way to raise

173. For example, when Ireland introduced a 20-cent tax on plastic bags, it was reported that the sale of trash can liners increased by seventy-seven percent. *Id.* (citing http://www.cga.ct.gov/2008/rpt/2008-R-0685.htm).

174. Sirico, *supra* note 162.

money to help fight obesity.[175] In more egregious situations, lawmakers will refuse to even give the label of "tax" to the revenue raiser in hopes of deflecting all potential opposition. For example, when defending the proposed bottled water tax in Florida, Senator Evelyn Lynn stated: "This is not a tax[.] It's a surcharge to save the environment."[176] Meanwhile the tax was projected to add $42.3 million into Florida's recession-ravaged treasury.[177]

In other instances, lawmakers will present the sin tax as a way to stop individuals from engaging in certain behaviors, but the actual amount of the proposed tax will be insufficient to achieve that purpose. For example, a lawmaker may propose a one or two cent per can tax on sodas, and justify the levy in terms of targeting unhealthy behaviors. In truth, however, the lawmakers and experts have no expectation that the modest price increase will have any effect at all on consumption levels, and indeed share this intuition with the lobbyists ready to oppose the bill.[178]

In Washington, D.C., for example, lawmakers enacting the 5-cents-per-bag tax projected that annual revenue for D.C. would approach $3.5 million. However, when the decline in single-use bags greatly exceeded lawmakers' expectations, revenue collections fell far short of projections. Revenues totaled only $2 million during the tax's first year, with bag use during the first month dropping from the pre- tax monthly use of 22.5 million down to only 3.3 million.[179] One may only conclude that while D.C. lawmakers intended to have some impact on the consumption of single-use bags, they really did not anticipate consumers virtually abandoning their use altogether. Although environmental advocates may be pleased that fewer bags were used, budget-conscious

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175. *See supra* Part II.C.

176. *See* News Service of Florida, *Bottled Water Tax Is Back*, *available at* http://www.jaxobserver.com/2010/03/24/bottled-water-tax-is-back/.

177. *Id.*

178. Strnad, *supra* note 65, at 1226 (citing Michael F. Jacobson & Kelly D. Brownell, *Small Taxes on Soft Drinks and Snack Foods to Promote Health*, 90 AM. J. PUB. HEALTH 854, 856 (2000)).

179. Bag use during January 2010, the first month of the tax, dropped to 3.3 million bags issued, drastically down from the 22.5 million bags per month used during 2009. Higginbottom, *supra* note 53; Tim Craig, *Bag Tax Raises $150,000, But Far Fewer Bags Used*, WASH. POST, (Mar. 29, 2010), http://voices.washingtonpost.com/dc/2010/03/bag_tax_raises_150000_but_far.html.

lawmakers have to be disappointed that less revenue was collected.

Nevertheless, it may be possible to achieve mixed-motive objectives by combining relatively higher value tax amounts with lower salience if that is the true intention of the lawmakers. For example, given a particular tax value and salience point, if the value of the tax is increased, we can expect taxpayers to increase their response to the tax (with the greater response coming from more elastic bases). This is helpful from a behavioral standpoint if the goal is either Pigovian or de-biasing. However, if the base is relatively elastic, we can expect the revenue potential to be muted because too many taxpayers will substitute products in order to avoid the tax.[180] This is why an increase in the absolute value of a mixed-motive tax would need to be accompanied by a commiserate reduction in tax salience. Lawmakers would have to delicately balance these offsetting effects in order to achieve both behavioral and revenue goals.

V. CONCLUSION

While the magnitude and scope of new sin taxes have exploded over the past decade, substantive explorations of the recent phenomenon in the academic literature have generally lagged behind. While there is still much more empirical and theoretical work to be done before definitive conclusions can be reached, it is still worthwhile to advance the theoretical analysis of the potential effects of tax salience. I believe that the recent empirical findings regarding salience provide potentially significant insight into the proper role and design of sin taxes in our modern economy. By correctly exploiting the attributes of low, full, and high salience taxes, lawmakers should be able to devise more efficient ways to raise revenue and modify consumer behaviors.

180. Because the cigarette tax base is substantially inelastic, some jurisdictions still are able to continue to raise revenue through increased cigarette taxes. However, once taxes become too high (or relatively high in comparison to other substitute markets), demand will drop and revenue collections will decline. *See* W. Kip Viscusi, *Cigarette Taxation and the Social Consequences of Smoking*, *in* TAX POL'Y AND THE ECON. 51, 75 (James M. Porterba ed., 1995); Willard G. Manning et al., *The Taxes of Sin: Do Smokers and Drinkers Pay Their Way?*, 261 JAMA 1604, at 5 (1989) *available at* http://www.rand.org/pubs/notes/2009/N2941.pdf.