

THE CASE FOR REDUCING THE MARKET SALIENCE OF TAXATION

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IN THIS PAPER WE WILL ADDRESS A NARROW BUT important question that has arisen in the literature on tax salience. Contrary to the predictions of neoclassical economic theory, a number of studies have demonstrated that, in response to certain presentations of tax prices, consumers do not always fully factor tax costs into their market decisions. This result indicates that policy makers could opt for tax price presentation techniques that would reduce the market salience of taxation, thereby likely also reducing the deadweight loss otherwise caused by taxpayers distorting their behavior to avoid taxation. Assuming that these experimental results are sound, and bracketing the many other reservations possible as to the manipulation of tax salience, we argue that it is generally normatively desirable to reduce the market salience of taxation. In particular, we refute several specific critiques of reducing market salience forwarded by the existing literature. We argue that, at least based on our current empirical knowledge, these critiques are exaggerated.

DEFINITIONS

In this paper we are interested in the concept of “tax salience,” which is meant to capture any *systematic* differences between how taxpayers would perceive the costs of taxation in a hypothetical world of perfect economic rationality consistent with neoclassical economics and how taxpayers actually perceive the costs of taxation in the real world. There may be many types of market salience, and so within the larger concept of tax salience, we focus on what we call “market salience,” which is tax salience with regard to market-decision making (e.g., consumer purchasing). We are particularly interested in distinguishing market salience from

the concept of “political salience,” which is tax salience with regard to political-judgment formation (e.g., individual voting).¹ As we argue at length elsewhere, these phenomena are different and much of the literature, especially the older literature, relates to political salience, not market salience (Gamage and Shanske, 2011).

THE BASICS OF MARKET SALIENCE

The Spotlighting Hypothesis

The most developed hypothesis in the market salience literature predicts spotlighting behavior. As Liebman and Zeckhauser (2004) define the term, “spotlighting occurs when consumers respond to immediate or local prices and ignore the full schedule that they face.” In other words, spotlighting involves taxpayers focusing only on certain components of an aggregate price and thereby underestimating the aggregate price.² However, simply dividing an aggregate price into a tax price and a pre-tax price may not be enough to induce spotlighting. In most of the empirical studies on spotlighting, an additional element also comes into play – a separation of the tax assessment from the market decision.

Empirical Evidence

The seminal paper on the market salience of taxation – written by Raj Chetty, Adam Looney, and Kory Kroft (2009; hereinafter, CLK) – examines spotlighting with respect to sales and excise taxes. CLK’s paper includes two empirical studies showing that consumers do not always fully factor the price effects of retail sales taxes into their purchasing decisions; we will focus on the first study here.

CLK’s first study examined consumer decision making in grocery stores. CLK convinced a Northern California grocery store to include sales tax information and post-tax prices on the tags listing the prices for some goods displayed on the store’s aisles, while continuing the standard practice of displaying only pre-tax prices for other goods. CLK found that consumers were significantly less

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likely to purchase goods for which the tax information was posted, even though later consumers at the same stores displayed accurate knowledge about the sales tax when later surveyed (Chetty et al., 2009, p. 1165). CLK reasonably concluded that simple ignorance of the sales tax was not the issue. Instead, the taxpayers appeared to simply not factor the price effects of the sales tax into their purchasing decisions. There have been several other important papers with results along the same lines as CLK.³

The Simple Case for Reducing the Market Salience of Taxation

“Excess burden” or “deadweight loss” is the loss to taxpayer utility that results from taxpayers shifting away from taxed activities. Hence, for instance, sales taxes generate excess burden to the extent taxpayers reduce their retail purchases, capital income taxes generate excess burden to the extent taxpayers reduce their savings, and corporate income taxes generate excess burden to the extent individuals shift their investments out of the corporate form.

By definition, reducing the market salience of a tax instrument lessens the substitution effects that result from the tax instrument, as the concept of market salience refers to the extent to which taxpayers factor tax prices into their market decisions. Replacing a high-market salience tax instrument with an otherwise identical lower-market salience alternative thus alleviates the excess burden caused by substitution effects. Intuitively, if the market-price-effects of a tax become less salient, then the tax should have less distortionary impact on taxpayers’ market behavior. Indeed, Raj Chetty has developed formulas for measuring the excess burden of low market salience taxes by comparing the differences in how individuals respond to tax prices as compared to non-tax prices (Chetty, 2009). When tax instruments are fully market salient, taxpayers generally respond identically to tax prices as to non-tax prices (Chetty, 2009, pp. 10-11). Conversely, a completely non-market-salient tax instrument would result in no excess burden from substitution effects, being equivalent in this regard to a lump-sum tax (Chetty, 2009, p. 38).

Consequently, the standard economic notion that substitution effects result in normatively undesirable excess burden makes a simple case for reducing the market salience of taxation. By alleviating the tendency for taxpayers to shift away from taxed

activities, low market salience taxes can raise revenue while producing less deadweight loss.

ISSUES WITH REDUCING MARKET SALIENCE

Income Effects

Of the limitations to the simple normative case for reducing market salience, the problem of “distortionary income effects” has received the greatest attention in the literature.⁴ We thus begin our analysis of the potential limitations to the simple normative case for reducing market salience by focusing on distortionary income effects. When taxes reduce individuals’ budgets, the standard models assume that the individuals optimally allocate their (now smaller) after-tax budgets across goods and time periods (Chetty, 2009, p. 14). However, individuals may not allocate their after-tax budgets optimally when taxes have low-market salience (Chetty, 2009, pp. 15-16). As Brian Galle explains, “if the consumer doesn’t realize her bank account is low, she may find at the end of the month she doesn’t have enough cash for the things she planned to buy” (Galle, 2009, p. 79).

Hence, the very feature that supports the simple normative case for reducing market salience may also produce, following CLK, a distortionary income effect. To the extent that a car-registration tax induces taxpayers to purchase less expensive automobiles, this generates deadweight loss through substitution effects. Yet to the extent that reducing the market salience of the car-registration tax would return the taxpayers to purchasing the more expensive automobiles, this may generate deadweight loss through distortionary income effects. When low market salience taxes result both in lesser substitution effects and in distortionary income effects, the simple case for reducing market salience may no longer hold (Chetty, 2009, p. 14). This is especially true if these distortionary income effects are not distributed equally throughout the population – if, for instance, the individuals most likely to misallocate their budgets are also disadvantaged in some other way.

CLK model different ways in which individuals may allocate their budgets when faced with low market salience taxes. They conclude that the welfare implications of reducing market salience depends critically on how taxpayers adjust their budgets (Chetty et al., 2009, p. 1174). If taxpayers fail to account for tax costs when allocating

their budgets, and purchase luxury items before necessities, the taxpayers may end up being forced to primarily reduce consumption of necessities once they run out of funds. In this case, the social welfare losses caused by the distortionary income effects may overpower the social welfare benefits from lessened substitution effects, thereby making the net consequences of low market salience undesirable.

In contrast, if taxpayers respond to low market salience taxes by primarily reducing their consumption of luxury goods, distortionary income effects can be avoided. This conclusion holds even when the reason taxpayers primarily reduce consumption of luxury goods is happenstance rather than the taxpayers rationally allocating their reduced after-tax budgets. If the taxpayers spend their funds first on necessities, and only later on luxuries, the taxpayers may stumble into a near-optimal budget allocation even when the taxpayers cannot accurately predict the size of their after-tax budgets (Chetty et al., 2009, p. 1174). Likewise, if taxpayers reduce their consumption of all goods equally, distortionary income effects might create only small excess burden (Chetty et al., 2009, p. 1174).

Consequently, distortionary income effects should only defeat the simple case for reducing market salience when taxpayers purchase luxury items before necessities and are thus forced to disproportionately cut their consumption of necessities once they run out of funds. In the following paragraphs, we argue that this scenario is only likely to occur under two limited sets of conditions: first, when low market salience taxes affect the irregular expenditures and activities of credit-constrained taxpayers, and, second, when there are long-time delays between market choices and tax assessments.

Our argument for the limited importance of distortionary income effects depends on our educated intuitions for how taxpayers learn from experience. For taxes imposed on regular expenditures or activities – in the absence of long time delays – we expect that taxpayers should generally learn to approximate the size of their budgets through experience. Even when taxpayers cannot accurately assess a tax instrument directly, taxpayers may still note the connections between tax-relevant decisions and at least some of the tax consequences that follow from those decisions (Kaplow, 2008, p. 144). Through repeated exposure to the tax con-

sequences of decisions, taxpayers may develop a rough sense of how decisions affect their expected future tax liabilities, even without understanding the tax-law mechanics of how these liabilities are calculated.

Assuming our intuitions about taxpayer learning are mostly accurate,⁵ reducing the market salience of taxation should generally have a much greater impact through lessened substitution effects than through distortionary income effects. To the extent that taxpayers can roughly estimate the size of their after-tax budgets, but do not account for the effects of taxation on relative prices, the simple normative case for reducing market salience is robust to concerns about distortionary income effects.

The first set of conditions under which we expect distortionary income effects to remain an important limitation are when taxes are assessed on irregular purchases or activities by credit-constrained taxpayers. In the extreme case of one-time purchases, taxpayers cannot learn from their own experience, as any learning will occur too late to be of use. We thus expect the simple case for reducing market salience to hold more often for regular purchases and activities.

However, taxpayers may still be able to borrow or use prior savings to smooth their consumption over time, thereby alleviating distortionary income effects even for irregular purchases and activities (Chetty, 2009, p. 16). Distortionary income effects occur when taxpayers overspend on luxury goods and are thus forced to disproportionately cut consumption of more necessary goods. But if the taxpayers can smooth their consumption over time through borrowing or using savings, the taxpayers can instead reduce their consumption of future luxury goods, minimizing the need to reduce consumption of necessities. Of course, here too, there may well be a correlation between taxpayers who are credit constrained and those who have difficulty in self-educating, further amplifying distributional concerns as to one specific group of taxpayers.

The second set of conditions wherein we expect distortionary income effects to pose a serious concern operates much like the first. Long-time delays between market choices and tax assessments may interfere both with taxpayers learning about their after-tax budgets and with taxpayers smoothing their consumption over time. If market salience is reduced by delaying tax assessments for long time periods, taxpayers are likely to spend more during

the period prior to the tax assessment, leaving fewer resources for spending after the tax assessment. A portion of this front-loaded spending may represent lessened substitution effects to the extent taxpayers are discounting how the tax affects the relative prices of goods and activities. Whether such front-loaded spending also represents sizeable distortionary income effects depends on whether the purchases during the early time period are more like luxuries, or like necessities, as compared to purchases in the later time period.

If tax assessments with long time delays lead taxpayers to save less than they would otherwise wish for retirement, then distortionary income effects may well overpower reduced substitution effects. We thus expect that the simple case for reducing market salience is unlikely to hold with long time delays. The definition of “long” will likely vary with the transaction. A few days might be a long time for purposes of a transaction-type tax, while decades may be a long time in connection with retirement planning. Individuals seem ill-equipped for long-term decision-making like retirement planning even in the absence of low-market salience taxes (Bernheim, 2002).

Overall then, we expect the simple case for reducing market salience to be robust to concerns about distortionary income effects. The two exceptions are when low market salience taxes affect the irregular expenditures and activities of credit-constrained taxpayers, and when there are long time delays between market choices and tax collections.

Distribution Effects

Besides distortionary income effects, the most frequently discussed limitations to the simple case for reducing market salience involve externalities or distribution.⁶ In this final section, we will focus on distribution, but we would expect that our basic framework for alleviating concerns about distribution to work as well (if not better) with externalities. Specifically, at least in theory, we expect that offsetting tax-rate adjustments can alleviate most conflicts between the efficient revenue-raising advantages of reducing market salience and concerns related to distribution. In practice, we are uncertain of the extent to which the needed offsetting tax rate-adjustments will be politically feasible. Regardless, even when offsetting tax-rate adjustments cannot fully alleviate concerns related to distribution (or externalities), we still argue that

meaningful evaluation of the relationship between market salience and externalities or distribution requires an understanding of the limitations of offsetting tax-rate adjustments.

Our argument here is an extension of the “unifying conceptual framework for the normative study of taxation and related subjects,” developed in its most complete form by Louis Kaplow.⁷ As Kaplow describes his proposed framework, “in order to analyze a given policy . . . the policy is combined with a distributively offsetting adjustment to the income tax. The net result is a reform package that is distribution neutral, which, as will be seen, holds much constant and leaves in play the distinctive effects of the policy instrument under consideration, ones that can then more readily be evaluated” (Kaplow, 2008, p. xviii).

As applied to the market salience of taxation, Kaplow’s framework suggests a mechanism for alleviating conflicts between the efficient revenue-raising advantages implied by the simple case for reducing market salience and competing concerns like distribution. In many circumstances, offsetting tax-rate adjustments suffice to counteract any negative consequences of reducing market salience, while preserving at least some of the efficient revenue-raising advantages of reducing market salience. In sum, if reducing the market salience of a tax instrument would have negative distributional implications, these distributional implications may be at least partially offset by adjusting the rates of the income tax or of other available tax instruments. The reason is that the income tax will typically be better at measuring characteristics relevant for distribution (Kaplow, 2008, p. 21).

As a hypothetical starting point, imagine that taxpayers’ ability to earn income is the only characteristic of taxpayers that is relevant for distributional analysis.⁸ Further imagine that the income tax near perfectly measures taxpayer’s ability to earn income, with the sole limitation being that taxpayers may substitute from work to leisure as a result of the income tax reducing the returns to work as opposed to leisure.⁹ Finally, assume that – controlling for taxpayers’ income – any heterogeneity in taxpayers’ susceptibility to means for reducing market salience is uncorrelated with the taxpayers’ preferences for leisure as opposed to work.¹⁰

Under these assumptions, any concerns related to distribution can be completely alleviated through offsetting income-tax-rate adjustments, such that

the simple efficiency-enhancing case for reducing market salience is robust to distributional concerns. Reducing the market salience of any tax instrument for which such is possible alleviates labor-to-leisure distortions, which are the only costs to redistribution under these assumptions. Hence, reducing market salience lowers the costs of enacting redistribution. With offsetting income-tax-rate adjustments, reducing market salience can thus achieve greater redistribution at lower efficiency costs.

There are numerous qualifications to this strong result, which depends on the narrow assumptions listed above.¹¹ Perhaps most importantly, if a technique for reducing market salience does not affect all taxpayers equally, there may be correlations between a taxpayer's susceptibility to the technique for reducing market salience and characteristics of the taxpayer that are relevant for distributional analysis (and which cannot be perfectly controlled for by the income tax). As an example of such a confounding correlation, heterogeneity in taxpayers' general cognitive ability could be associated with both taxpayers' ability to earn income – controlling for the actual income earned – and with taxpayers' susceptibility to means for reducing market salience. If so, reducing market salience would increase the revenues raised from lower-ability taxpayers more than from higher-ability taxpayers (Galle, 2009, pp. 100-04; Nussim, 2010, pp. 244-47). The income-tax-rate adjustments required to offset these negative distributional consequences of reducing market salience can counteract at least some of the efficient revenue-raising advantages of reducing market salience. Yet if there are sufficient correlations, and the distributional concerns about them are strong enough, they might significantly undermine the simple normative case for reducing market salience.

Furthermore, even when offsetting tax-rate adjustments are theoretically capable of resolving distributional concerns, political or administrative limitations may prevent the implementation of the offsetting tax-rate adjustments. In particular, if the rates of the income tax are set based on voters' or politicians' aesthetic judgments, such that these judgments are not updated when the distributional impact of other parts of the tax system are changed, then this "isolation effect" in the judgments made by voters or politicians may interfere with the enactment of the appropriate offsetting tax-rate adjustments (McCaffery and Baron, 2006).

Despite these qualifications, we continue to expect that offsetting tax-rate adjustments should often suffice to (at least partially) alleviate distributional concerns. Our primary doubt in this regard is whether the offsetting tax-rate adjustments needed to alleviate distributional concerns will prove politically feasible. We hope to analyze this question further in future research. For now, although we doubt that offsetting tax-rate adjustments will always prove politically feasible, we see no reason for concluding that politics will always (or even generally) prevent the implementation of offsetting tax-rate adjustments. Ultimately, meaningfully evaluating concerns related to distribution requires some understanding of the potential for and limits to offsetting tax-rate adjustments.

CONCLUSION

The literature on market salience, though exciting and suggestive, is still in its infancy. We are not certain that there are any specific policy reforms that can yet be derived from this literature. Nevertheless, we have observed that it has become common to note that any possible benefits from reductions in market salience may well be overwhelmed by distortionary income effects and other distributive concerns. We think these critiques have merit, but have argued herein that, as a general matter, they do not defeat the possible efficiency gains promised by reductions in market salience.

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Notes

- ¹ The literature on political salience is huge, with the starting point usually located in Mill (1994, p. 237).
- ² Spotlighting is related to the concept of “partitioned pricing” (or “reference pricing”) in the consumer behavior literature, as explicated, for instance, in Morwitz et al. (2009).
- ³ See, e.g., Ott and Andrus (2000).
- ⁴ See, e.g., Chetty (2009, pp. 15-16); Chetty et al. (2009, pp. 1173-74). Since we view these as the most important texts on market salience, we follow their approach in focusing on distortionary income effects.
- ⁵ And we are also assuming that the learning process is not too long or expensive such that relying on it triggers distributional concerns.
- ⁶ The many examples include Chetty (2009, pp. 4, 6-8), Galle (2009, pp. 61, 78, & 100-03), and Nussim (2010, pp. 244-47 & 249-53).
- ⁷ Kaplow (2008, p. xvii). Kaplow’s framework builds on the seminal optimal tax result in Atkinson and Stiglitz (1976).
- ⁸ The description of the starting point in this paragraph is intended as a simplified articulation of Kaplow’s framework.
- ⁹ Welfare-enhancing redistribution then entails transferring resources from high-ability taxpayers to low-ability taxpayers, except for the limitation that such redistribution may lead high-ability taxpayers to work less (to mimic the observable behavior of low-ability taxpayers). This tradeoff is the intuition behind Okun’s “leaky bucket” – the essential tradeoff between redistribution and efficiency that underlies much of optimal tax theory. Slemrod (1994).
- ¹⁰ This relates to the famous “separability” assumption of Kaplow’s framework (and of the Atkinson-Stiglitz 1976 model and related literature); however, our formulation is purposefully colloquial rather than formal.
- ¹¹ Discussions of qualifications to the strong result from Kaplow’s framework – as explained in a simplified form above – can be found in, for example, Kaplow (2008, pp. 135-48), Markovits (2005, pp. 550–55), Sanchirico (2001), and Jolls (1998).

References

Atkinson, Anthony B. and Joseph E. Stiglitz. The Design of Tax Structure: Direct Versus Indirect Taxation. *Journal of Public Economics* 6 (1976): 55-75.

Bernheim, B. Douglas. Taxation and Saving. In Alan Auerbach and Martin Feldstein eds, *Handbook of Public Economics*. Amsterdam: Elsevier, 2002, pp. 1173-1249.

Chetty, Raj. The Simple Economics of Salience and Taxation. Cambridge, MA: National Bureau of Economic Research, 2009. NBER Working Paper 15246.

Chetty, Raj, Adam Looney, and Kory Kroft. Salience and Taxation: Theory and Evidence. *American Economic Review* 99 (Summer 2009): 1145-1177.

Galle, Brian. Hidden Taxes. *Washington University Law Review* 87 (2009): 59-113.

Gamage, David and Darien Shanske. Three Essays on Tax Salience: Market Salience and Political Salience. Forthcoming 2011.

Jolls, Christine. Behavioral Economic Analysis of Redistributive Legal Rules. *Vanderbilt Law Review* 51 (1998): 1653-77.

Kaplow, Louis. *The Theory of Taxation and Public Economics*. Princeton: Princeton University Press, 2008.

Liebman, Jeffrey and Richard Zeckhauser. *Scheduling* (2004), http://www.hks.harvard.edu/fs/rzeckhau/Scheduling_Oct172004.pdf.

Markovits, Richard S. Why Kaplow and Shavell’s “Double Distortion Argument” Articles are Wrong. *George Mason Law Review* 13 (Spring 2005): 511-619.

McCaffery, Edward and Jonathan Baron. Isolation Effects and the Neglect of Indirect Effects of Fiscal Policies. *Journal of Behavioral Decision Making* 19 (2006): 289-302.

Mill, John Stuart. *Principles of Political Economy*. Oxford: Oxford University Press (original 1848, reprinted 1994).

Morwitz, Vicki G., Eric A. Greenleaf, Edith Shalev, and Eric J. Johnson. The Price does not Include Additional Taxes, Fees, and Surcharges: A Review of Research on Partitioned Pricing. (February 26, 2009) http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1350004

Nussim, Jacob. To Confuse and Protect: Taxes, Prices, and Consumer Protection. *Columbia Journal of Tax Law* 1 (2010): 218 -261.

Ott, Richard L., and David M. Andrus. The Effect of Personal Property Taxes on Consumer Vehicle Purchasing Decisions: A Partitioned Price/ Mental Accounting Theory Analysis. *Public Finance Review* 28 (2000): 134-52.

Sanchirico, Chris. Deconstructing the New Efficiency Rationale. *Cornell Law Review* 86 (2001): 1003-1089.

Slemrod, Joel. Fixing the Leak in Okun’s Bucket: Optimal Tax Progressivity When Avoidance Can Be Controlled. *Journal of Public Economics* 55 (1994): 41-51.