Tax Facts

A knowledge-based series by the Tax and Transfer Policy Institute

Economic Fundamentals: Tax Salience

Economic theory suggests taxpayers fully account for the costs imposed by taxation when making decisions. Yet, studies of real-world behaviour suggest this assumption does not always hold. For example, when purchasing a car, buyers frequently overlook the ongoing cost of registration, which causes them to underestimate the full cost of purchase.

Under what circumstances do taxpayers miscalculate the cost of a tax? Tax salience answers this question. But what is tax salience? How can it be used to explain the impact of different taxes on taxpayers' well-being? Could a greater understanding of tax salience be used to increase the efficiency of tax revenue collection?

Tax salience: some simple examples

Taxpayers are susceptible to underestimate or overestimate the cost of a tax in certain circumstances. Two such examples from recent empirical studies illustrate this:

- **E-tolls**: a study of how drivers respond to the introduction of electronic tolls found that drivers were less aware of tolls paid electronically, relative to tolls collected physically at a tollbooth [1].
- **Gasoline taxes**: a study from the United States found that consumers respond more to a gasoline tax increase than they do to an equivalent price increase [2].

A tax is 'less-than-fully salient' when an increase in the tax impacts taxpayer decisions less than an equivalent price increase. The e-toll is an example of a less-than-fully salient tax. Relative to other taxes, these taxes are typically indirect, rolled into final tax-inclusive prices, and collected through pay-as-you-earn withholding systems, making calculation difficult for the taxpayer. On average, taxpayers underestimate the cost of these taxes when making decisions.

On the other hand, the gasoline tax is an example of a 'more-than-fully salient' tax. A tax is said to be more-than-fully salient when an increase in the tax distorts taxpayer decisions by more than an equivalent price increase. More-than-fully salient taxes tend to be highly visible, easy to calculate and hard to avoid. They are incorrectly perceived as having a greater hit to the hip pocket, and as a result, taxpayers are more likely to overcompensate when making decisions.

An emerging application of behavioural economics

Tax salience is an example of real-world behaviour that deviates from the assumption that taxpayers are able to 'fully optimise'. If a taxpayer fully optimises, choices are made using complete information, including after-tax prices. When the assumption of 'full optimisation' holds all taxes are fully salient.

Emerging experimental evidence suggests that in some real-world situations, taxpayers do not behave in a fully optimising manner. These studies illustrate that instead of focusing on net tax liability, taxpayers' decisions are swayed by other factors, such as the way taxes are displayed, or the mechanism through which the tax is collected.

Box 1. Chetty, Looney and Kroft: the seminal experiment on tax salience

The best-known example of tax salience comes from a paper that considers sales taxes in the United States [3]. Importantly, sales tax is not displayed at the shelf and is only added to the shelf price at the register. The paper finds that because of low tax visibility, people do not fully incorporate sales tax into their purchasing decisions. In other words, an increase in sales tax (for instance, of 10 per cent) results in a smaller decrease in the demand for goods than would occur with an equivalent increase in price. It is also important to note that people seem to be aware of the sales taxes that applies. When asked about the items subject to sales taxes, the vast majority of people were able to correctly identify those items subject to tax and the approximate tax rate. The results suggest that by excluding taxes from the shelf price, people do not fully incorporate them into purchasing decisions [4].

Implications for taxpayer well-being

Taxes decrease societal well-being to the extent that taxpayers perceive the costs taxes impose and alter their decisions to avoid them [see our related tax fact on **deadweight loss**]. Tax salience can affect well-being through two channels: substitution effects and income effects.

Substitution effects arise when taxes change the relative price of goods and services. For example, if a tax was levied on hamburgers but not meat pies, we would expect some consumers to switch to eating pies to avoid paying the tax, even if they prefer hamburgers. To the extent that less-than-fully salient taxes reduce consumers' tendency to shift away from taxed goods, then lower salience taxes could be considered welfare enhancing.

Income effects arise from shifts in consumer behaviour due to reductions in their overall budget. When taxes are not fully salient, consumers risk misallocating their budgets. For example, if a consumer buys a car, but fails to account for the ongoing registration cost, they may be forced to cut back on other spending. If instead, they had correctly calculated the after-tax cost of the car, they may have actually preferred to buy a less expensive model. Hence, the income effects arising from less-than-fully salient taxes could be considered welfare reducing.

Any assessment of whether less-than-fully salient taxes are welfare enhancing or reducing must weigh the benefit of substitution effects against the cost of income effects.

Can policymakers use salience to improve the efficiency of revenue collection?

Efficient taxes collect revenue and change behaviour as little as possible [see **deadweight loss** tax fact]. By reducing the salience of taxes, it is theoretically possible to maximise the amount of revenue collected and minimise the loss of societal well-being caused by the tax. Salience could also have useful implications for tax design aimed at discouraging behaviours like cigarette consumption or pollution [see our tax fact on **taxing negative externalities**].

However, measures that reduce tax salience should be pursued with caution, as doing so runs counter to other policy objectives of the tax system, such as simplicity and fairness [see our related tax fact on **principles of tax system design**]. Further, using tax salience to secure greater tax revenue could prove ethically questionable, particularly if the policy intentionally deceives people about the tax they are liable to pay. Governments should be trying to increase transparency, improve information and help people make the best decisions possible.

[1] Finkelstein, A (2009), 'EZ-Tax: Tax Salience and Tax Rates', *The Quarterly Journal of Economics*, 124:3, pp. 969-1010.
[2] Li, S, Linn, J & Muehlegger, E (2014), 'Gasoline Taxes and Consumer Behavior', *American Economic Journal: Economic Policy*, 6:4, pp. 302-42.
[3] Chetty, R, Looney, A, & Kroft, K (2009), Salience and Taxation: Theory and Evidence, *The American Economic Review*, 99:4, pp. 1145-1177.
[4] Varela, P (2016), *What is tax salience?*, TPPI Policy Brief 4/2016, Tax and Transfer Policy Institute, Canberra.

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