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CHAPTER 3

The Theory and Practice of Selective Consumption Taxation

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Selective sales and excise taxes are perhaps the oldest tools of public finance known to humankind (Adams [1993] 2001).¹ And for nearly as long as selective taxes have been in place, economists have debated their merits.

Economic analyses of the effects of selective sales and excise taxes have become all the more important for two reasons: (1) Proposals to impose or to raise existing tax rates have garnered renewed support from dieticians and other health professionals arguing that they are justified to counteract a new “epidemic” of obesity associated with the consumption of sugary soft drinks, fast food, and so-called junk food. Such items are termed calorie-dense and high in (trans-) fats, sugar, and salt, ingredients that have been implicated as contributors to excessive body mass indexes, type II diabetes, cardiovascular disease, and other poor health outcomes. (2) Contributions to a recent literature in the relatively new field of behavioral economics (e.g., Kahneman 2011) have supplied additional justifications for governmental intervention

in private markets in ways that offset alleged cognitive biases in consumers' decision-making processes, thereby channeling them toward better choices—"better," that is, from the perspective of social science experts and political elites (Thaler and Sunstein [2008] 2009; Sunstein 2013; Thaler 2015).

In chapter 2 of this volume, Justin Ross outlined the variety of margins on which tax policies are evaluated. In this chapter, we assess selective taxes in the context of six issues of interest to public finance scholars and practitioners: (1) efficiency (defined below), (2) neutrality, (3) horizontal equity, (4) vertical equity, (5) rent-seeking and tax avoidance, and (6) information and paternalism.

EFFICIENCY

Efficiency is the metric by which most economists judge market outcomes. A market is efficient if it maximizes the gains from trade (allocative efficiency)² or if it utilizes resources in the best possible manner, that is, goods and services are produced at the lowest achievable average cost (productive efficiency).

One way to measure the efficiency of a tax system is to determine whether (and by how much) the imposition of a tax on a market reduces the aggregate gains from trade; a second important issue is tax incidence, that is, how the losses are distributed among the buyers and sellers of the taxed product. All other things being equal, a tax that lessens gains from trade to a smaller degree would be preferred to a tax that lowers them more substantially.

Two justifications are commonly advanced to support selective taxes in terms of efficiency. First, selective taxes can be imposed on goods that generate negative externalities—that is, those for which consumption decisions harm others not directly participating in the markets in which buyers and sellers interact. The traditional "sins" of smoking, drinking, and gambling are textbook examples of activities that impose costs on third parties. Selective taxes on such goods, which reduce market transactions in them, thus may actually be efficiency enhancing.³ Second, consumers of sinful goods and some other targets of taxation tend to be very unresponsive to after-tax price increases. The quantities demanded of such goods decline in percentage terms by less than the corresponding percentage increase in the tax-ridden price. That unresponsiveness is the chief reason selective taxes generate relatively small reductions in market gains from trade compared to other possible tax targets. But as we shall see, the simple models used to support selective taxes unfortunately often overlook more complex factors that ultimately undermine their attractiveness from an efficiency standpoint.

Negative Externalities

Taxes on tobacco, alcoholic beverages, and gambling customarily are known as sin taxes, because those consumption choices generally have been—and still are—thought to be activities the public sector should discourage. Smoking not only impairs the health and shortens the lives of smokers themselves (adverse outcomes that have been known for a long time: when first introduced in the United States in the late nineteenth century, cigarettes were called “coffin nails”), but it also can harm nonsmoking bystanders who are exposed to secondhand (“environmental”) tobacco smoke.⁴ Orthodox public finance arguments contend that immoderate gamblers and drinkers of beer, wine, and distilled spirits squander their wages, batter their spouses and children, often miss work or are less productive on the job, and lead lives of dissipation that compromise the sanctity of family home life. Intoxicated riders of horses and, later, drivers of automobiles sometimes damage public or private property and injure or kill pedestrians, passengers, and fellow users of the nation’s byways and highways.

Viewed as a category of activities whose effects potentially spill over onto nonconsuming third parties, economists began classifying smoking, drinking, and gambling as a type of market failure (Bator 1958)—a “negative externality” caused by the inability of the consumers to take account of the full (social) costs of their choices. In other words, the private costs of smoking, drinking, and gambling are less than their social costs, which include the value of the harm imposed on others. Imposing sales (ad valorem) or excise (or per unit) taxes on purchases of the goods in question equal to the difference between the private costs and social costs of consumption can in principle close that gap (Pigou [1920] 1952). Scaling the tax rate appropriately, which of course requires a fairly precise estimate of the social costs generated per unit of the good consumed,⁵ forces buyers to internalize the externality and to respond to the higher after-tax price by reducing their purchases. Private costs (including the tax paid) thereby are in theory brought into alignment with social costs, and market outcomes approximate those that would prevail in an ideal world where the decisions made by producers and consumers were optimal (i.e., included all relevant costs and benefits) from society’s point of view.

Pigouvian taxes on goods or activities producing negative externalities (and the public subsidies Pigou recommended for private activities generating positive externalities, such as education or immunization against communicable diseases) carry the whiff of a normative, social engineering perspective on fiscal policy. But it is important even in that world to keep in mind that

government intervention to correct perceived market failures is justified only when externalities are Pareto relevant—namely, when the social cost of intervening is less than the expected social benefits of shifting responsibility for acting to the public sector. And it may well be that the scope of Pareto-relevant externalities, both positive and negative, is much narrower than commonly assumed.⁶

Minimizing Excess Burden

A more positive economic analysis of selective sales and excise taxes can be found in the theoretical work of Frank Ramsey (1927).⁷ Ramsey’s model begins by assuming that the public sector aims to raise a predetermined (and fixed) amount of revenue at the lowest possible social welfare cost. As is known (or at least should be known) by every principles of economics student, selective taxes in general drive a wedge between the after-tax price of the taxed good to buyers and its cost of production. That wedge creates a deadweight loss of pre-tax producer and consumer surplus (Harberger 1954), which in the parlance of public finance is called the tax’s “excess burden,” measured as the amount by which the surpluses lost by consumers and producers exceed the revenue received by the taxing authority.⁸

According to Frank Ramsey, a tax is efficient if its excess burden is small, which will be so if the demand for the taxed good is inelastic, meaning that a 1 percent increase in the taxed good’s price, other things being equal, leads to a less than 1 percent reduction in quantity demanded. So, a benevolent dictator (“social planner”) who wants to use selective taxes to raise a targeted amount of revenue efficiently will set tax rates inversely proportional to the elasticities of demand for the goods on which taxes are levied. Imposing the highest tax rates on those goods for which demands are most inelastic and then moving down the list to goods having less inelastic (i.e., more elastic) demands until the revenue target is achieved thus minimizes the social welfare cost of a selective tax regime.

It turns out that the demands for cigarettes and alcohol are very inelastic—the median estimates from meta-analyses of multiple empirical studies of the own-price elasticities for both types of goods hover around -0.5 (Hoffer et al. 2015), implying that, other determinants of demand being the same, a 10 percent increase in price leads to about a 5 percent reduction in the quantities consumers are willing and able to buy.⁹ Singling out those two categories of sin goods for selective taxation therefore is consistent with Ramsey’s rule: the excess burdens of those taxes are relatively small and, for that reason

(quantity demanded does not decline very much after the taxes are imposed), they generate considerable revenue for the public sector.

Three points must be kept in mind, though. First, the Ramsey rule applies only when government starts with a revenue target and then asks how that revenue target can be reached most efficiently. The fiscal policy implications of the rule become less relevant if the public sector's objective instead is to raise as much revenue as possible without regard to social welfare considerations.¹⁰ Other factors then come into play, such as (as we shall see) the political costs and benefits of singling out particular goods or services for discriminatory taxation.

Second, the Ramsey rule is not designed to reduce purchases of the goods subject to selective taxation per se, but to generate tax revenue at the lowest possible social welfare cost. If the public sector relies on the Ramsey rule to curtail the consumption of the goods it taxes selectively for public health benefits or any other reason, the results will be disappointing precisely because Ramsey taxes are efficient: quantities demanded decline in percentage terms less—sometimes much less—than the corresponding percentage increases in after-tax prices.

Third, the Ramsey rule assumes that taxation carries no political costs. Holcombe (1997) emphasizes that this is certainly not the case. Tax rates are generated in a political process, wherein electoral goals are paramount and outcomes are determined by legislative vote trading (logrolling). “Interest groups, not social welfare criteria, determine the structure of excise taxes” (Holcombe 1997, 81). Hoffer (2016), for example, finds that the sizable variation observed in state tax rates on cigarettes is explained largely by the influence of tobacco special interests in tobacco-producing states.

Holcombe explains how the political costs of selective taxation increase as politicians become abler tax-rate discriminators. A basic implication of the Ramsey rule is that a different tax rate is applied to every single taxable good and service, which is inversely proportional to the elasticity of demand for it. The political costs of such a tax regime would be massive. Every company in every product-differentiated industry would have incentive to allocate resources, inefficiently from a social welfare perspective, in an attempt to obtain a more favorable tax rate. Holcombe suggests that political costs would be minimized if all goods were instead taxed at the same rate.

NEUTRALITY

Because they distort taxpayers' behavior to far lesser extents, taxes imposed on and collected from broad taxable bases (e.g., income or general sales taxes)

raise revenue for the public sector more efficiently (i.e., at a smaller excess burden) than taxes imposed discriminatorily on narrow bases. When a tax base is defined broadly, the ability of individuals to take advantage of untaxed or more favorably taxed substitutes for the good or activity in question necessarily is constrained. A broad-based tax cannot easily be avoided; tax bills cannot be reduced significantly by modifying one's behavior.¹¹ Such taxes are said to be neutral.

Neutrality is one of the holy grails of tax policy, because taxpayers' choices among the available alternatives are unaffected (or only modestly so) by the levying of a broad-based tax.¹² In an ideal, hypothetical world of public finance, taxes do not change taxpayers' allocations of time between work and leisure, of income between consumption and saving, or of spending across myriad goods and services.

Selective sales and excise taxes obviously fail the neutrality test. Tax bills vary depending on whether an individual chooses to buy a selectively taxed good and, if so, how much of it is purchased per week, per month, or per year. Although excise tax rates are the same per unit, smokers pay more tobacco taxes in total than nonsmokers do, drivers are taxed more heavily than nondrivers when buying motor fuels and vehicle tires, and the tax bills of consumers in some states who purchase beverages sweetened by sugar or high-fructose corn syrup are larger than those of buyers of artificially sweetened diet soft drinks.

HORIZONTAL EQUITY

The normative principle of tax neutrality is closely related to the standard of horizontal tax equity. Horizontal tax equity says that households earning similar incomes ought to face similar tax bills. That roughly would be true for personal income taxes, but for the tax code's many exemptions, deductions, and credits that, for example, allow homeowners (but not renters) to deduct mortgage interest payments or working low-income families with children (but not childless households) to claim the widely abused earned income tax credit.

Selective sales and excise taxes also violate that norm, because household tax bills vary according to consumption choices. A household choosing to consume alcohol or tobacco, for example, will pay more in taxes than one choosing not to consume those goods. Unless every selectively taxed item is purchased by everyone in a given income bracket, it cannot be true that the taxes are horizontally equitable.

VERTICAL EQUITY

A tax is said to be vertically equitable if it is progressive, that is, rises as the ability to pay taxes rises. Under this normative principle of public finance, the tax bills paid by high-income households will be larger as percentages of income than those faced by low-income households.

Selective sales and excise taxes are inconsistent with the norm of vertical tax equity, because it turns out that low-income households typically spend larger fractions of their incomes on goods subject to such taxes than do their high-income counterparts. Like consumption taxes in general, selective taxes therefore are regressive, meaning that, as proportions of income, their burdens fall most heavily on households at the lower end of the income distribution, thereby reinforcing pre-tax income inequality.

One explanation for this observation is that the quantities consumed of selectively taxed goods do not rise proportionately with income: a doubling of a household's income almost never will cause the members of that household to double the number of packs of cigarettes, cases of beer, or six-packs of sugary soft drinks they buy per day, week, or month. While it is true that high-income households may choose to buy upscale taxed goods of higher quality (finer wines or cigars, for instance, or premium rather than regular or mid-grades of gasoline), selective tax rates do not vary with product quality—the same per unit or ad valorem tax rate is applied to every unit purchased. The members of upper income households who do buy more selectively taxed goods than their lower income counterparts will of course pay absolutely larger tax bills, but the tax rate per unit, which influences purchases at the margin, remains the same.

In contrast, for reasons explained more fully below, because the burdens of such taxes typically fall on identifiable minorities of taxpayers and purchases of most selectively taxed goods do not decline substantially in response to tax-caused increases in their prices (the demands for them tend to be inelastic)¹³, selective sales and excise taxes are robust revenue engines for the governments that impose them. But that characteristic of consumer demand introduces a policy contradiction. The traditional justification for taxing some goods and not others—initially applied to the so-called sins of drinking, smoking, and gambling—is that such taxes reduce the purchases of goods deemed harmful to the health or welfare of buyers themselves or of third parties affected negatively by an individual's consumption choices. But if such taxes are meant to force consumers to internalize the externality imposed on others, they fail that test: evidence adduced by Viscusi (1994), for example, suggests that the excise tax rates on cigarettes imposed by state and federal governments already

exceeded plausible scientific estimates of the social costs of smoking per pack more than a generation ago.

However, if, as the evidence shows, the quantities demanded of alcoholic beverages, tobacco, and most other selectively taxed goods decline only modestly in the face of tax-induced increases in their prices, the behavioral modification justification for selective tax policy is weakened. In such cases, the stated public policy aim of imposing or raising such taxes to regulate socially undesirable or unhealthful consumption behavior simply is a smokescreen misdirecting attention from policymakers' actual purposes, namely, to generate tax revenue at comparatively low political cost. In other cases, for instance, when a tax is conceived as a user fee (e.g., motor fuel taxes to pay for road construction and repair, or tobacco taxes to pay for the public healthcare costs of treating smoking-related diseases), the main question to be addressed is whether the tax revenue actually is spent as intended. The answer typically is "no."¹⁴

RENT-SEEKING AND TAX AVOIDANCE

Selective tax policies create winners and losers. Those groups and the agents representing them therefore have strong incentives to participate actively in the political process that determines tax bases and tax rates (Holcombe 1997). The outcome of that process, in turn, determines how much the winners stand to win (in the form of the shares of the tax revenue redistributed to them) and how much the losers stand to lose (in the form of higher tax bills).¹⁵ Each potentially affected group thus will engage in rent-seeking activities (Tullock 1967) to shape the legislation in ways that maximize its own collective benefits net of lobbying costs.¹⁶

In that sense, proponents of government intervention aimed at correcting perceived behavioral anomalies are like Adam Smith's "man of system," who

is apt to be very wise in his own conceit; and is often so enamoured with the supposed beauty of his own ideal plan of government, that he cannot suffer the smallest deviation from any part of it. He goes on to establish it completely and in all its parts, without any regard either to the great interests, or to the strong prejudices which may oppose it. He seems to imagine that he can arrange the different members of a great society with as much ease as the hand arranges the different pieces upon a chess-board. He does not consider that the pieces upon the chess-board have

no other principle of motion besides that which the hand impresses upon them; but that, in the great chess-board of human society, every single piece has a principle of motion of its own, altogether different from that which the legislature might chuse to impress upon it. If those two principles coincide and act in the same direction, the game of human society will go on easily and harmoniously, and is very likely to be happy and successful. If they are opposite or different, the game will go on miserably, and the society must be at all times in the highest degree of disorder.
(Smith [1761] 1982, 233–34)

Among other things, Adam Smith’s “man of system” ignores the substitution opportunities available by cross-border shopping in neighboring jurisdictions where tax rates are lower (Vedder 1997) as well as those created by differential tax rates on items in broader product categories (Gant and Ekelund 1997). Insofar as they impose the same tax rate on every unit purchased, selective consumption taxes are blunt instruments for pricing the external costs supposedly associated the commission of sin (Wagner 1997). A policy’s unintended consequences emerge either because supporters are not good economists (Bastiat [1850] 1964) or because most effects beyond the immediately foreseeable ones were in fact known and therefore intended (Stigler 1971).

In early 2015, paternalistic impulses were on display in northern California. A ballot measure in the city of Berkeley asked voters to approve or reject an ordinance proposing to levy an excise tax of 1 cent per ounce on carbonated soft drinks and other sugar-sweetened beverages (SSBs) as a way of countering a perceived epidemic of obesity-related type II diabetes and other health problems linked in part to excessive consumption of sugar and high-fructose corn syrup.¹⁷ The referendum passed by a margin of 60 percent to 40 percent. Some months later, San Francisco approved an ordinance requiring health warnings on billboards and other advertising messages for SSBs, advising that “Drinking beverages with added sugar(s) contributes to obesity, diabetes, and tooth decay” (Esterl 2015). Although educational campaigns are a form of soft paternalism, the American Beverage Association joined the California Retailers Association and the California Outdoor Advertising Association to sue San Francisco on First Amendment grounds.

Berkeley’s referendum recommending levying a selective excise tax on sugar-sweetened soft drinks triggered the expenditure of \$3 million—\$2.5 million spent by its opponents and \$0.5 million by its supporters—or

roughly \$30 per vote cast. Such lobbying outlays (both to seek rents and to defend them) add to the social cost or excess burden of the tax initiative (Tullock 1967). Given that Berkeley's selective excise tax on SSBs at the time it was proposed was anticipated to generate about \$1 million in new revenue for the city's coffers in each of the following years, that extra revenue will not begin to offset its deadweight social cost until 2018 at the earliest.¹⁸ This first-in-the-nation selective excise tax on sugary soft drinks is a poster-child for modern uses of taxes to generate revenue over and above the practice in most jurisdictions to include those consumer goods in their existing sales tax bases.

Evidence is accumulating, though, that artificially sweetened beverages contribute as much to the supposed ongoing obesity epidemic—and perhaps more so—than does consumption of SSBs (e.g., Imamura et al. 2015; Shughart 2015). If those findings are supported by additional evidence, Berkeley's and San Francisco's recent policy initiatives will turn out to have been counter-productive. Hard and soft paternalism relying on preliminary, incomplete, or flawed scientific evidence may be worse than not taking any action at all.

INFORMATION AND PATERNALISM

Imagine that during one week, you hand a neighbor your grocery money to do all your shopping at a local grocery store. The only food you have available to eat is selected by someone else. He or she would most likely be able to buy items for meals that are nutritional, but dollar for dollar, you almost certainly could have bought food that would have pleased you more. Maybe you neighbor drinks skim milk, but you prefer 2 percent; your neighbor buys canned corn, but you prefer frozen; your neighbor buys fresh salmon, but you do not eat much fish; your neighbor likes “organic” food, but you want to minimize your grocery bill for the week. Having someone else buy your groceries is apt to lead to disappointment.

At the societal level, delegating to any central organization authority to allocate goods and services means that alignment of such decisions with individual preferences is impossible.¹⁹

The economic problem of society is thus not merely a problem of how to allocate “given” resources—if “given” is taken to mean given to a single mind which deliberately solves the problem set by these “data.” It is rather a problem of how to secure the best use of resources known to any of the members of society, for ends whose relative importance

only these individuals know. Or, to put it briefly, it is a problem of the utilization of knowledge which is not given to anyone in its totality. (Hayek 1945, 519–20)

Modern policymaking elites use findings from behavioral economics to collapse all individual preferences or goals into the one preference or goal arrived at somehow by others.²⁰ These paternalists blur the distinction between tax policies ostensibly designed to address negative externalities, such as the injuries and deaths associated with drunk driving, and what might be called “internalities;” internalities represent harm caused to one’s (future) self, plausibly arising from informational deficiencies or time-inconsistent preferences that lead some individuals to be intemperate drinkers, smokers, or eaters of high-fat or salt-heavy foods today, because they discount heavily the future consequences of those consumption choices.²¹ Many modern selective tax regimes are proposed and enacted for the express purpose of reducing consumption for consumers’ own good. We might call such policies “meddlesome preferences” (Sen 1970; Buchanan 1986)—with teeth.

Proposals to impose a new selective tax or to raise an existing one for purely fiscal reasons often are combined with appeals to a higher moral purpose (improving public health, correcting pervasive biases in consumers’ decision-making processes or producing other benefits for society as a whole). Such appeals join with the more parochial financial interests of the individuals and groups who stand to gain from imposing a selective sales or excise tax to form decisive political coalitions similar to the the “Bootleggers and Baptists” model of regulation (Smith and Yandle 2014).

CONCLUSION

Selective consumption taxes are age-old. Customarily levied on the “sins” of smoking, drinking, and gambling, such taxes are justified by observing that they are relatively efficient means of generating revenue for the government. Most sin goods have relatively few substitutes, meaning that increases in their after-tax prices cause the quantities consumers are willing and able to buy to decline less than proportionately. Such taxes are more efficient (create smaller excess burdens) than those imposed on goods for which consumers are more sensitive to changes in price (Ramsey 1927). Selective taxes on the purchases of sin goods therefore are revenue engines for the public sector because, by their very natures, such taxes do not reduce the consumption of the taxed goods and services very much.

More recently, though, selective sales and excise taxes have been imposed at the US state and federal levels of government not to reduce the purchases of goods and services plausibly generating negative externalities—that is, harm to innocent third parties (e.g., battered spouses and the victims of drunk drivers) or as so-called user fees (e.g., motor fuel taxes)—but instead to protect the health and welfare of consumers themselves, or what we have called internalities. We therefore see taxes imposed on sugar-sweetened beverages and junk food so as to reduce the incidences of obesity-related diabetes and heart disease for consumers' own good mainly to disguise their revenue-raising prowess. But if the demands for such goods also tend to be inelastic, as the econometric evidence suggests, taxing those food items will not achieve public health professionals' stated goal of reducing consumption significantly. Moreover, because rates of smoking, drinking, and gambling as well as the more modern sins (eating fast food and junk food) are higher among poor than rich people, the burden of selective sales and excise taxes falls most heavily on low-income households.

Support for selective sales and excise taxation has been reinforced recently by the findings of behavioral economists and psychologists, who report that consumers' decision-making is beset by cognitive anomalies inconsistent with the models and predictions of neoclassical economic theory.

Unfortunately, the paternalists either overlook or ignore critics of their models who argue that, because they, too, are flawed human beings, policy-makers themselves are subject to those same cognitive failures and, moreover, that the public policy process largely is driven by special-interest groups rather than by public-spirited health professionals, politicians, and bureaucrats.

Placing individual consumption choices further under the control of public policymakers and special-interest groups makes individuals and society worse off. The US government tried Prohibition (of alcohol production and sales) between 1920 and 1933 (Shughart 2016). Most people did not stop drinking; black markets in booze, violent crimes, and political corruption were rampant. Modern tax regimes assuredly are less onerous than banning the consumption of politically incorrect goods and services outright, but both policy approaches have been justified by the same political rhetoric supposedly aimed at promoting the interests of society and each member of it. We know that such arguments are flawed. Taxes distort consumption choices, by definition, creating excess burdens (deadweight social welfare losses), and making both producers and consumers worse off and poorer (especially those at the lower end of the income distribution). Selective consumption taxes transfer money from the pockets of American consumers and businesses into the

public treasury, where it will be spent mostly to buy the votes of people who think (erroneously) that government officials are wiser and less self-interested than ordinary citizens. Ever since Treasury Secretary Alexander Hamilton first imposed a federal excise tax on whiskey in the late 1780s, selective taxation of traditional and more modern sins has been the means by which revenue for the public sector can be raised by targeting the paths of least political resistance to expanding the state rather than a means to help otherwise autonomous individuals to avoid supposedly bad consumption choices.

At bottom, optimal tax policies are a chimera, grounded in the recommendations of so-called public finance experts, who see ways of raising revenue for the public sector at the lowest possible excess burden (deadweight social costs). But those recommendations necessarily must be filtered through a political process, the actors in which are motivated, not by notions of tax efficiency but by more parochial goals, such as maximizing probabilities of election or reelection. In the end, selective tax policies in practice target the consumers of products who can be portrayed as imposing costs on themselves or on innocent third parties, even if those costs do not stand up to dispassionate scientific examination. Markets may fail to achieve optimal results, but government failure in the context of tax policy is a much more serious problem.

Determined by political processes, selective sales and excise tax rates plainly are inconsistent with normative public finance principles of efficiency, neutrality, and equity. Because the politicians who enact them lack accurate information about consumers' preferences, are influenced by lobbying by special-interest groups supporting or opposing tax policy changes, and sometimes compete to raise revenue from the same tax base (e.g., selective local, state, and federal taxes on tobacco, alcohol, and motor fuel), it should not be too surprising that tax rates often exceed the level that maximizes tax revenue (Shughart and Tollison 1991) or any credible estimate of the social costs of consuming certain goods.

NOTES

1. A sales tax is levied ad valorem (i.e., as a percentage of the taxed good's retail price). An excise tax, in contrast, is levied as so many cents or dollars per unit purchased. Examples of the latter include Berkeley, California's penny per ounce tax on sugary soft drinks, and state and federal excise taxes on cigarettes and gasoline. Selective sales taxes on one good are rarer than selective excise taxes, although, for example, moist smokeless tobacco (snuff) is subject to a selective ad valorem tax in some jurisdictions. Many jurisdictions "tax the tax": local and state sales taxes often are applied to retail prices on top of any selective excise tax.
2. The hallmark of allocative efficiency is a situation in which a good's market price is equal to the marginal cost of producing it. Allocative efficiency is achieved only in a market that satisfies the strict textbook assumptions of perfect or pure competition, namely, (1) perfect

- information on the part of both buyers and sellers, (2) product homogeneity (i.e., no spatial or quality differentiation among sellers), and (3) costless entry and exit by all market participants.
3. Such taxes are corrective in the sense of A. C. Pigou ([1920] 1952), who was the first economist cum sociologist to recommend them as ways of aligning private costs with the social costs of consumption. The chief problem associated with Pigouvian taxes is that policymakers rarely have access to the information required to measure social costs accurately or the incentives to act on that information in ways that improve social welfare. On that insuperable problem, see Hayek (1945) and the discussion below.
 4. Cigarette smoking became a serious public health issue following the publication of the US surgeon general's report on smoking and health in 1964 (Hoffer et al. 2015, 32). The surgeon general was concerned at the time with establishing a direct link between cigarette smoking and the incidences of lung cancer and heart disease in tobacco users. It was not until 15 years later (1979) that worries about the adverse health impacts of smoking on others, then known as involuntary or passive smoking, began to be raised (Aviado 1986).
 5. Distinguishing carefully between the social costs of consumption (those imposed on third parties) from the corresponding private costs (those borne by the consumer personally) is critical in computing the optimal tax rate. If, for instance, cigarette smokers are absent more often from workplaces than nonsmokers, smokers themselves will bear the majority of those costs in the forms of, for example, lower wages, smaller pay raises, and slower promotions. Conflating social costs and private costs leads to excise tax rates on cigarettes that are much too high for the purpose of forcing smokers to internalize the externality (e.g., Viscusi 1994). Virtually all estimates of the social costs of consuming particular goods, including tobacco, also ignore (and therefore fail to net out) consumption's individual benefits or ways in which consumption reduces burdens on the public treasury, the latter including early death, which lowers taxpayer-financed healthcare and pension expenditures.
 6. See, for example, King (2007) on K-12 public education, Holcombe and Sobel (1995) on state legislatures, and McAndrew (2012) on crime labs, all of which find private benefits but few public benefits flowing from the provision of such services. The externalities in these cases thus seem to be infra-marginal, not marginal ones that would justify government intervention.
 7. The economics literature that followed Ramsey on the effects of selective excise taxes is both broad and rich; see, for example Shughart et al. (1987) as well as the contributions both to theory and to policy practice cited in Shughart (1997).
 8. The size of the excess burden depends mainly on the tax rate and the elasticities of the demand for and the supply of the taxed good. In the simple case of linear demand and constant marginal cost (perfectly elastic supply), it can be shown (see, e.g., Hillman 2009, 252) that the excess burden of an excise tax is computed as $(\frac{1}{2})(pq)\eta_D t^2$, where p and q are respectively the price and quantity prevailing in the market before a tax of t dollars (or cents) per unit is levied on the good, and η_D is the elasticity of demand at the pre-tax price and quantity. The excess burden thus rises as demand becomes more elastic (η_D increases in absolute value) and as the tax rate increases. (As a matter of fact, all else equal, the excess burden rises by the square of the tax rate.) No excess burden materializes in the very special case of perfectly inelastic demand $\eta_D = \infty$ since in that case consumers are completely unresponsive to a tax-ridden increase in price; the quantity of the good they are willing and able to buy does not change. The tax in that case is paid fully by the individuals on the demand side of the market, as it is when supply is perfectly elastic. If demand is perfectly elastic ($\eta_D = \infty$), a selective tax raises no revenue whatsoever, because the after-tax market price does not change; producer surplus will be lower, though, creating an excess burden without any offsetting benefit.
 9. The elasticity of the demand for any good, including tobacco and alcohol, largely depends on the number of substitutes available to the consumers of the taxed good. Other things being equal, demand elasticity increases with the number of substitutes on offer currently and that become available over time, as buyers are given opportunities to search for and take advantage

of them. Demand elasticity thus hinges in part on how broadly or narrowly the tax base is defined. The demand for Camel cigarettes is more elastic, for instance, than the demand for all brands of cigarettes taken together. The substitution possibilities help explain why electronic cigarettes, the exhaled vapors from which are not now known to impose adverse health effects on nearby nonsmokers, are in the process of being added to the tobacco tax base in many jurisdictions.

10. See Brennan and Buchanan ([1980] 2000, chap. 4), for an analysis demonstrating the critical importance of Ramsey's assumption about an overall revenue target and explaining why neither his nor Pigou's normative conclusions hold for a Leviathan government's selective commodity tax regime.
11. Poll or head taxes, which are levied lump sum on every man, woman, and child, are for that reason the most economically efficient means of raising revenue for the public sector. Such taxes can be escaped only by moving out of the jurisdiction imposing them or by dying. Because a poll tax of \$1,000 imposes a heavier burden on someone with an annual income of \$10,000 than on someone else who earns \$100,000 per year, such taxes also are regressive, which explains the fairly widespread opposition to them.
12. Tax neutrality is a goal advanced frequently to justify the collection of state sales taxes from remote (out-of-state) sellers. But cross-border shopping is a key contributor to consumer-friendly interjurisdictional tax-rate competition (Vedder 1997; Shughart 2000).
13. The (own-price) elasticity of demand for any good is computed as the ratio of the percentage change in quantity demanded to a 1 percent change in the good's own price, holding all other determinants of demand, such as the prices of related goods (i.e., substitutes and complements for the good in question), the consumer's income, and his or her tastes and preferences, constant. Demand is said to be inelastic, unit elastic, or elastic according to whether that ratio is less than, equal to or more than one in absolute value.
14. Owing to the familiar equi-marginal principle of neoclassical economic theory, no politician ever will allocate all revenue raised by an earmarked tax to spending by the program to which the taxes ostensibly are dedicated. Well-known examples include the diversion of monies away from healthcare and smoking-cessation programs under the Master Settlement Agreement with the tobacco industry (Stevenson and Shughart 2006), legislative raiding of motor fuel tax receipts deposited into highway trust funds, and the reallocation of lottery and casino tax revenues earmarked for public education. See Lee (1997) and Crowley and Hoffer (chap. 6, this volume) for discussions of the earmarking of tax receipts as a way of overcoming political resistance to new selective taxes or increases in existing ones.
15. When selective taxation prompts consumers to reduce their purchases of taxed goods or services, they also suffer utility losses. Tobacco and alcohol deliver satisfaction to consumers; gambling is fun for casino patrons and lottery players. Taxes also reduce the income available for spending on goods not subject to tax.
16. Rent-seeking by groups supporting and opposing selective sales or excise taxes raises problems of organizing and mobilizing collective action not addressed explicitly here (see Olson 1965).
17. High-fructose corn syrup is the sweetener of choice for many food manufacturers owing to US import quotas on cane sugar—trade restrictions that have raised sugar's domestic price to twice that prevailing on world markets—and subsidies for corn growers to support ethanol production.
18. Six months after implementation, the tax's effects on soft drink prices were falling short of proponents' projections. Only about 22 percent of the penny per ounce SSB tax (levied on distributors) is being shifted forward to consumers, likely because of opportunities for shopping beyond Berkeley's city limits and substitution of (untaxed) diet drinks for their sugar-sweetened versions (Cawley and Frisvold 2015). Berkeley's voters could have taken the lesson learned by Denmark, which was forced to repeal a tax on foods with a saturated fat content of 2.3 percent or more, because many Danes crossed the border into Germany or Sweden to buy cheese and other high-fat items (Kliff 2012).

19. Policymakers' information sets also must account for consumers' attitudes toward risk, which play significant roles in behavior leading to obesity, especially among low-income African-Americans (de Oliveria et al. 2015).
20. We have adapted here one of James Buchanan's (1986) objections to the Kaldor-Hicks test judging public policies that create winners and losers (as all surely do) to be Pareto superior to the status quo if it is possible for the former (as a group) to compensate the latter (also as a group), even if no compensation occurs.
21. Our definition differs from that of Charles Wolf. According to Wolf, "internalities are the private goals that apply within non-market organizations to guide, regulate, and evaluate the performance of agencies and their personnel" (quoted in Levy and Peart 2015, 3).

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