

12-1-2000

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Recommended Citation

Lawrence Zelenak, *The Puzzling Case of the Revenue-Maximizing Lottery*, 79 N.C. L. REV. 1 (2000).

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THE PUZZLING CASE OF THE REVENUE-MAXIMIZING LOTTERY

LAWRENCE ZELENAK*

Familiarity with state lotteries obscures their strangest characteristic—that they are designed to extract as much revenue as possible from lottery consumers. States do not attempt to wring as much revenue as possible from the consumers of any other product, either through government monopolies or through revenue-maximizing taxation. In this Article, Professor Zelenak considers various possible justifications for the uniquely unfavorable treatment of lottery consumers. The Article concludes that the special state treatment of lotteries cannot be justified by efficiency analysis, distributional effects, or historical precedent. The Article notes, however, that the previous illegality of lotteries meant that lotteries could be introduced without depriving lottery players of any accustomed (legal) consumer surplus. This unusual circumstance is a legitimate factor in a utilitarian analysis of the optimal implicit tax rate for a state lottery, but even it fails to justify revenue-maximization.

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INTRODUCTION

States operate lotteries to make as much money as possible. Once a state has made the decision to have a lottery, the goal of revenue maximization is taken for granted. After all, how else would a state run a lottery? From a broader perspective, however, states' attempts to exploit the full revenue potential of lotteries are puzzling.

A government could give itself a legal monopoly over *any* consumer product or service, and then set prices so as to extract monopoly profits. But governments in the United States claim few business monopolies, and in the few non-lottery areas of government monopoly—most notably publicly-owned utilities, the postal service, and state liquor stores—governments do not set prices at the profit-maximizing level. Rather than taking over direct ownership of an industry, a state might realize the rough equivalent of monopoly profits by imposing a revenue-maximizing excise tax on a particular consumer product.¹ But states do *not* do this. Even in the case of “sin” taxes on alcohol and tobacco, states do not attempt to set rates at the level that will maximize revenue. The puzzle, then, is that state behavior with respect to lotteries is unique. States do not attempt to wring every last dollar out of the consumers of any other product, either by direct ownership or by taxation.

This Article begins by documenting that uniqueness. Part I demonstrates the revenue-maximizing goal of lotteries; for many

1. See Appendix *infra* pp. 41–43 for a discussion of the possibility of imposing an excise tax that produces revenue similar to the profit from a fully exploited monopoly.

states this demonstration requires nothing more than a quotation from an express legislative directive. Part II describes the very different approach taken by the states regarding the revenue exploitation of other products. Examples include excise taxation of alcohol and tobacco, and government monopolies over utilities, liquor stores, and vanity license plates. Part III considers some possible justifications for the unique treatment of lotteries. Neither efficiency nor distributional considerations point to the desirability of profit-maximizing lotteries. History is no more helpful. There is ample eighteenth and nineteenth century American precedent for lotteries, but not for profit maximization. Part IV considers the significance of the fact that lotteries were illegal before the development of state lotteries. Because of that unusual circumstance, revenue-maximizing lotteries could be introduced without depriving lottery players of their accustomed consumer surplus and without reducing the profits of an existing (and legal) lottery industry. Although this circumstance is a legitimate factor in a utilitarian analysis of the optimal implicit tax rate for a state lottery, it fails to justify revenue-maximization. The Article concludes that the uniqueness of the states' exploitation of lotteries puts a burden of justification on proponents of revenue-maximizing lotteries, which they almost certainly cannot carry. If they cannot, revenue-maximizing lotteries—lotteries as we know them—should be abandoned.

I. MAXIMIZING REVENUE AS THE GOAL OF STATE LOTTERIES

Each American lottery jurisdiction (thirty-seven states and the District of Columbia) has given itself a monopoly over lottery gambling within its boundaries.² One motivation for state monopolies has been the desire to keep lotteries free of fraud and criminal influence.³ Economies of scale may provide another rationale for a

2. NAT'L GAMBLING IMPACT STUDY COMM'N, FINAL REPORT 3-4 (1999) (Sup. Docs. No. Y3.2:G14) [hereinafter NGISC REPORT] ("To date, each state that has authorized a lottery has granted itself a monopoly; none has seen fit to allow competitors."); Charles T. Clotfelter et al., *State Lotteries at the Turn of the Century: Report to the National Gambling Impact Study Commission* 24, at <http://www.ngisc.gov/reports/lotfinal.pdf> (Apr. 23, 1999) [hereinafter Clotfelter, *Turn of the Century*] (on file with North Carolina Law Review).

3. NGISC REPORT, *supra* note 2, at 3-4; see CHARLES T. CLOTFELTER & PHILIP J. COOK, SELLING HOPE: STATE LOTTERIES IN AMERICA 162 (1989) [hereinafter CLOTFELTER & COOK, SELLING HOPE] ("The monopoly form appears to be a structural response to the corruption associated with the nineteenth-century lotteries and the hint of organized crime surrounding other kinds of gambling in which private firms are licensed to operate."); Clotfelter, *Turn of the Century*, *supra* note 2, at 24 ("[T]he monopoly model appears to have worked well in keeping out unsavory elements from lottery operations.").

lottery monopoly. Between two bets with equal expected payoffs (i.e., jackpot amount multiplied by the odds of winning), players generally prefer the bet with the larger jackpot and longer odds.⁴ By forcing all lottery players into the same betting pool, a monopoly makes it easier to offer lottery games with big jackpots.⁵

As experience with state liquor stores and publicly-owned utilities demonstrates,⁶ a government monopoly need not be operated to produce monopoly profits. However, half of the thirty-eight lottery jurisdictions could not be more explicit about their intent to maximize revenues from their lottery monopolies. Lottery statutes in nineteen states demand operation with the objective of maximizing net revenue (or, in one case, with the purpose of generating "continuing and increas[ing] revenue"⁷), subject only to vague constraints of consistency with the dignity of the state, the welfare of its people, or the public good.⁸ Lottery experts note that almost all

4. See Clotfelter, *Turn of the Century*, *supra* note 2, at 4 (noting that several multi-state lottery consortia have been formed to make larger jackpots possible in the participating states).

5. See *id.* at 23.

6. See *infra* text accompanying notes 39–43 (liquor stores) and 18–24 (utilities).

7. CONN. GEN. STAT. ANN. § 12-806(a) (West Supp. 2000).

8. See ARIZ. REV. STAT. § 5-504(B) (1995 & Supp. 1999) (requiring the lottery to be operated "to produce the maximum amount of net revenue consonant with the dignity of the state"); CAL. GOV'T CODE § 8880.25 (West 1995) (requiring the lottery to be operated to "produce the maximum amount of net revenues"); CONN. GEN. STAT. ANN. § 12-806(a) (West Supp. 2000) (providing that the lottery shall be "operate[d] . . . in an entrepreneurial and business-like manner" in order to "provide continuing and increased revenue"); DEL. CODE ANN. tit. 29, § 4801(a) (1997) (requiring the lottery to be operated to "produce the greatest income for the State"); FLA. STAT. ANN. ch. 24.104(2) (Harrison 1998) (requiring the lottery to be "operated to maximize revenues in a manner consonant with the dignity of the state and the welfare of its citizens"); GA. CODE ANN. § 50-27-2(3) (1998) (requiring the lottery to "be operated . . . in a manner which . . . maximizes revenues"); IDAHO CODE § 67-7403 (Michie 1995) (providing that "the lottery shall be operated to produce the maximum amount of net income . . . consonant with the public good"); IND. CODE ANN. § 4-30-5-3 (Michie 1996) (requiring "operat[ion of] the lottery to maximize revenues in a manner consistent with the dignity of the state and the welfare of its citizens"); IOWA CODE § 99E.9(1) (1996 & Supp. 2000) (requiring the lottery to be operated "to produce the maximum amount of net revenues for the state in a manner which maintains the dignity of the state and the general welfare of the people"); KY. REV. STAT. ANN. § 154A.060(1) (Michie 1996) (requiring the lottery to be operated to "result in maximization of revenues"); LA. REV. STAT. ANN. § 47:9009(A) (West Supp. 2000) (requiring the lottery to be operated so as to "result in maximization of revenues to the state," while maintaining "the dignity of the state and the general welfare of its citizens"); MICH. STAT. ANN. § 18.969(9)(1) (Michie 1999) (requiring the lottery to be operated to "produce the maximum amount of net revenues for the state consonant with the general welfare of the people"); MONT. CODE ANN. § 23-7-202(3) (1999) (directing the lottery commission to "maximize the net revenue paid to the state . . . and ensure that all policies and rules adopted further revenue maximization"); N.J. STAT. ANN. § 5:9-7(a) (West 1996) (requiring the lottery to be operated to "produce the maximum amount of net

other lottery states differ only in the lack of an express statement of their profit-maximizing purpose.⁹

Although there are significant differences among the states in their implicit lottery tax rates (i.e., lottery profits as a percentage of prizes plus operating expenses),¹⁰ the variation seems to be based on differences in operating expenses¹¹ and in real or perceived differences in consumer demand in different states,¹² and not on different goals. In the past few years, there has been a trend toward higher payouts (and lower implicit taxes), but it has been driven by changes in demand resulting from increasing competition from neighboring state lotteries and from other forms of gambling.¹³ Recent lower implicit tax rates are simply a continuation of the attempt to maximize profits, albeit under less favorable conditions.

The exceptions to revenue-maximizing lottery operations do not relate to implicit tax levels, but to severe restrictions on lottery

revenues . . . consonant with the dignity of the State and the general welfare of the people"); N.M. STAT. ANN. § 6-24-7(B) (Michie 1999) (instructing the lottery board to "maximize the net revenue" and to "assure that all rules, policies and procedures adopted further revenue maximization"); OR. REV. STAT. § 461.200 (1997) (requiring the lottery "to be operated as to produce the maximum amount of net revenues . . . commensurate with the public good"); S.D. CODIFIED LAWS § 42-7A-24 (Michie 1991 & Supp. 2000) (directing the lottery commission to "maximize the net proceeds to the state from the sale of instant and on-line lottery tickets"); WASH. REV. CODE ANN. § 67.70.040(1) (West 1985 & Supp. 2000) (requiring the lottery to be operated to "produce the maximum amount of net revenues for the state consonant with the dignity of the state and the general welfare of the people"); W. VA. CODE § 29-22-9(a) (1999) (requiring the lottery to "be operated so as to produce the maximum amount of net revenues . . . consonant with the public good").

9. Writing in 1989, Clotfelter and Cook stated that "revenue maximization is close to a universal goal" of state lotteries. CLOTFELTER & COOK, *SELLING HOPE*, *supra* note 3, at 168. Ten years later they and their co-authors reported that nothing had changed: "In virtually all states, the operational answer to [the question of the ultimate objective of a lottery] has been that the lottery should be run so as to maximize revenue." Clotfelter, *Turn of the Century*, *supra* note 2, at 21; *see also* John F. Scoggins, *The Lotto and Expected Net Revenue*, 48 NAT'L TAX J. 61, 69 (1995) ("[S]tate lottery agencies are supposed to maximize profits.").

10. Implicit tax data for all thirty-eight lottery jurisdictions for fiscal year 1997 is set forth in Clotfelter, *Turn of the Century*, *supra* note 2, at tbl. 3. According to this table, five jurisdictions have implicit tax rates greater than 60% (the highest is Pennsylvania at 67.8%); five have rates between 50% and 60%; fourteen are between 40% and 50%; eight are between 30% and 40%; and six are below 30% (the lowest is Idaho at 25.6%). *Id.*

11. Operating expenses as a percentage of revenues tend to be higher in smaller states. *Id.* at 7.

12. *See id.* (citing evidence of much greater demand for lottery products in Massachusetts than in neighboring Vermont).

13. *Id.* at 28. In other words, the strength of the lottery monopoly is weakened by the increasing availability of imperfect substitutes—other forms of gambling within the jurisdiction and the same form of gambling in nearby jurisdictions.

advertising in a very small number of states. In contrast to the standard use of aggressive lottery advertising "to stimulate rather than merely accommodate demand,"¹⁴ Virginia law prohibits the lottery from expending funds "for the primary purpose of inducing persons to participate in the lottery."¹⁵ Wisconsin similarly prohibits the use of public funds for promotional (as distinguished from merely informational) lottery advertising.¹⁶ The Minnesota statute is slightly less restrictive. It permits promotion of the lottery as entertainment, but not as a means of relieving financial difficulties or as an investment.¹⁷ Other lottery states have some statutory restrictions on the nature of lottery advertising, but only of the sort that might be imposed on private advertisers as a means of consumer protection. Only in Virginia, Wisconsin, and Minnesota are the restrictions severe enough to suggest that the state is seriously restricting the revenue potential of its lottery.

II. STATES' FAILURE TO MAXIMIZE REVENUE FROM OTHER PRODUCTS

A. *Utilities and Other Government Monopolies*

Despite the theoretical potential for monopoly pricing by government-owned utilities, in practice such behavior is at least extremely rare, and probably non-existent. Local governments commonly have monopolies over water supplies and sewers, for example, but they never try to maximize revenues from those utilities. Governing statutes typically require water and sewer authorities to fix their rates at the level necessary to cover operating and maintenance expenses (including debt service and reserves for depreciation and contingencies).¹⁸ Electrical utilities owned by local governments are somewhat less common, but their prices are also set to cover their costs rather than to earn monopoly profits.¹⁹ The same is true of the

14. CLOTFELTER & COOK, *SELLING HOPE*, *supra* note 3, at 11. For good discussions of typical lottery advertising practices, see *id.* at 186-212; ALAN J. KARCHER, *LOTTERIES* 72-88 (1989); Ronald J. Rychlak, *Lotteries, Revenues and Social Costs: A Historical Examination of State-Sponsored Gambling*, 34 B.C. L. REV. 11, 60-63 (1992); Clotfelter, *Turn of the Century*, *supra* note 2, at 18-23.

15. VA. CODE ANN. § 58.1-4022(E) (Michie 1997).

16. WIS. STAT. ANN. § 565.32(1) (West 1998). The statute does, however, permit promotional advertising by retailers and vendors. *Id.* § 565.32(2).

17. MINN. STAT. ANN. § 349A.09.2 (West 1990 & Supp. 2000).

18. See, e.g., 42 N.Y. PUB. AUTH. LAW § 1196-d(20) (McKinney 1994) (requiring expense-based pricing).

19. See, e.g., *Hearde v. City of Seattle*, 611 P.2d 1375, 1377 (Wash. Ct. App. 1980)

two federally-established power suppliers, the Tennessee Valley Authority (TVA) and the Bonneville Power Authority (BPA).²⁰

The oldest and most prominent federal monopoly is the United States Postal Service (USPS). Federal law requires the USPS to charge postage rates “in the public interest,” rather than in the interest of profits.²¹ The statutory directives to the Postal Rate Commission call for a “fair and equitable [rate] schedule,” with “each class of mail . . . bear[ing] the direct and indirect postal costs . . . plus that portion of all other costs . . . reasonably assignable.”²²

Government-owned mass transit is something of a special case. Typically transit authorities do not follow the standard utility cost-based pricing model. Instead, they charge fares so low that their revenues are well below costs, with the difference made up by general tax revenues.²³

In short, the dominant model for government monopolies is cost-based pricing, with pricing *below* cost the only common alternative model. As two leading experts on public enterprises have noted, “[P]ublic enterprise in the [United States] has a strong tradition of being nonprofit[,] making behavior like that of a pure monopolist unlikely.”²⁴

B. Alcohol Excise Taxes and State Liquor Stores

A recent study of state taxes on alcohol found a wide range of tax burdens, across both different states and different beverages. State tax revenues from beer ranged from \$1 to \$30 per proof gallon,

(holding that a state statute requiring rates charged by utilities to be “just, fair, reasonable and sufficient” applied to a government-owned power company).

20. With respect to the Tennessee Valley Authority (TVA), see 16 U.S.C. § 831k (1994) (mandating that when TVA sells power to a for-profit utility, the utility must agree that it will re-sell to consumers at prices which are “reasonable, just and fair”) and 16 U.S.C. § 831j (1994) (mandating that TVA policy is to “permit domestic and rural use at the lowest possible rates”). With respect to the Bonneville Power Authority (BPA), see 16 U.S.C. § 832e (1994) (mandating that rates “shall be fixed and established with a view to encouraging the widest possible diversified use of electric energy”) and 16 U.S.C. § 832f (1994) (mandating that rates shall be set to allow the recovery of costs of production and transmission).

21. 39 U.S.C. § 3622(a) (1994) (requiring the USPS to ask the Postal Rate Commission for permission to change rates when a change “would be in the public interest”).

22. 39 U.S.C. § 3622(b)(1), (3).

23. See, e.g., WASH. REV. CODE ANN. § 35.95.010 (West 1985 & Supp. 2000) (authorizing Washington municipalities to use tax revenues to subsidize their transit systems).

24. MICHAEL A. CREW & PAUL R. KLEINDORFER, *THE ECONOMICS OF PUBLIC UTILITY REGULATION* 153 (1986).

with fifteen states below \$7 and fifteen above \$10.²⁵ For wine, revenues ranged from \$2 to \$24 per proof gallon, with sixteen states below \$8 and twenty-two above \$11.²⁶ Distilled spirits were the most heavily taxed, with a range of \$5 to \$30.²⁷ Eighteen states were below \$11 and twenty were above \$15.²⁸ This great variation in rates suggests that states are not generally trying to maximize alcohol tax revenue.²⁹ Although the revenue-maximizing alcohol excise tax rate no doubt varies somewhat from state to state based on differences in demand, it seems unlikely that states attempting to maximize tax revenues would arrive at such widely varying rates. Results from econometric studies also suggest that states are not attempting to maximize alcohol tax revenue. A recent survey of studies of the price elasticity of demand for alcohol concludes that "[t]he best estimates today imply that a 10-percent increase in the alcohol tax rate probably would increase the amount of tax revenues collected, although by less than 10 percent."³⁰

A 1997 study of the effect of the 1991 federal alcohol excise tax increase on alcohol sales in nine selected states provides additional evidence that states are generally below the revenue-maximizing tax rates on alcohol.³¹ For each major form of alcohol (beer, wine, and distilled spirits), the study examined sales in a low tax, a moderate tax, and a high tax state. In only one of the nine cases studied (beer in high tax Hawaii) did the federal excise tax increase lead to a permanent decline in sales.³² This finding implies that in the other eight cases the states could increase alcohol tax rates without significantly decreasing sales; increased taxes would thus result in increased revenues.³³

25. See RICHARD MCGOWAN, *GOVERNMENT REGULATION OF THE ALCOHOL INDUSTRY: THE SEARCH FOR REVENUE AND THE COMMON GOOD* 115 tbl. 7.1 (1997).

26. See *id.* at 117 tbl. 7.3.

27. See *id.* at 116 tbl. 7.2.

28. See *id.*

29. The variations are much larger than the variations in the implicit tax rates of state lotteries. See Clotfeler, *Turn of the Century*, *supra* note 2, at 28 tbl. 3.

30. Donald Kenkel & Willard Manning, *Perspectives on Alcohol Taxation*, 20 *ALCOHOL HEALTH & RES. WORLD* 230, 234-35 (1996). Kenkel and Manning explain that "[a] more precise estimate is difficult to calculate . . . because no consensus exists on exactly how responsive alcohol demand is to price." *Id.* at 235.

31. MCGOWAN, *supra* note 25, at 121-30.

32. *Id.* at 123-30.

33. McGowan states (perhaps with pun intended) that alcohol's "full potential as a source of revenue has not been tapped," particularly with respect to beer and wine. *Id.* at 118.

At the very least, then, the states have good reason to suspect that they have not fully exploited the tax potential of alcohol; they should experiment with increased rates if revenue maximization is their goal. Yet, there have been virtually no changes in state alcohol tax rates over the past five years, and the little movement that has occurred has been in the direction of *lower* rates.³⁴

The story is much the same at the federal level.³⁵ The most recent legislation increasing federal alcohol excise taxes was passed in 1990.³⁶ Although the legislative history of that increase indicates definite interest in the expected revenue, nothing suggests that Congress was attempting to find the revenue-maximizing rate.³⁷ Two years later, the Joint Committee on Taxation estimated that Congress could raise \$23.5 billion over five years by increasing the federal excise tax rate to \$16 per proof gallon for all alcoholic beverages.³⁸ Despite the interest in deficit reduction in the early 1990s, Congress failed to act on this opportunity to increase revenue.

In addition to excise taxes, governments might attempt to maximize revenue from alcohol by giving themselves sales monopolies and then pricing so as to extract monopoly profits. Although a few states do limit the sale of some kinds of alcoholic beverages to state liquor stores, states do not generally attempt to use their liquor store monopolies to maximize profits. To the contrary,

34. See Mandy Rafool, *State Tax Actions 1999*, 18 ST. TAX NOTES 919, 923 (2000) (reporting an increase in the Illinois liquor tax, small alcohol tax decreases in two other states, and no changes in the rest of the country); Judy Zelio et al., *State Tax Actions 1998*, 16 ST. TAX NOTES 1039, 1044 (1999) (reporting that the only 1998 changes in alcohol taxes were minor *reductions* in two states); Judy Zelio, *State Tax Actions 1997*, 14 ST. TAX NOTES 1005, 1009 (1998) (reporting that the only 1997 change in state alcohol taxation was a *reduction* in a scheduled increase in the Washington state beer tax); Scott R. Mackey, *State Tax Actions 1996*, 11 ST. TAX NOTES 1461, 1465 (1996) ("For the third consecutive year, state alcoholic beverage tax changes were negligible.").

35. Federal alcohol excise taxation in the years immediately following the repeal of Prohibition is discussed *infra* text accompanying notes 146–153.

36. Omnibus Budget Reconciliation Act of 1990, Pub. L. No. 101-508 § 11201, 104 Stat. 1388, 1388-415 to 1388-419 (codified at 26 U.S.C. §§ 5001(a)(1) (1994) (distilled spirits), 5041(b) (1994 & Supp. IV 1998) (wine), and 5051(a)(1) (1994) (beer)).

37. See H.R. REP. NO. 101-881, at 279–80 (1990), *reprinted in* 1990 U.S.C.C.A.N. 2017, 2281–82 (Sup. Docs. No. Y 1.1/8:101-881). Actually, the legislative history suggests that non-revenue concerns were at least as significant as revenue concerns in justifying the increase: "[I]ncreasing the alcoholic beverage excise taxes could help to place some of the costs of alcohol consumption on alcohol users and could reduce consumption among teenagers." *Id.* at 280, *reprinted in* 1990 U.S.C.C.A.N. 2017, 2282 (Sup. Docs. No. Y 1.1/8: 101-881).

38. See STAFF OF JOINT COMM. ON TAX'N, 102D CONG., ISSUES INVOLVED IN POSSIBLE REVENUE OPTIONS TO REDUCE THE FEDERAL DEFICIT 29 (Comm. Print 1992).

statements of legislative purpose commonly invoke "protection of the public welfare, health, peace and morals," or some very similar formulation.³⁹ Some statutes explicitly insist on a sumptuary model, in which the state is careful not to stimulate demand. Utah's statute, for example, calls for state liquor store pricing designed to "reasonably satisfy the public demand and protect the public interest,"⁴⁰ and prohibits state stores from "promot[ing] or encourag[ing] sale or consumption of alcoholic beverages."⁴¹ Idaho decrees that the state liquor store agency "shall not attempt to stimulate the normal demands of temperate consumers . . . , irrespective of the effect on the revenue derived by the state from the resale of intoxicating liquor."⁴²

New Hampshire is the lone exception to the general rule that states do not seek to maximize profits on the sale of alcoholic beverages. The New Hampshire statute directs the liquor commission to operate liquor stores in such a way as to "maximize their profitability."⁴³ This is indeed the same revenue maximization goal pursued by state lotteries, and it makes the justification of the New Hampshire lottery a special case. While every other lottery state must explain why the lottery product is uniquely appropriate for revenue maximization, New Hampshire must explain why only the lottery *and* those alcoholic beverages over which the state claims a monopoly should be exploited for their full revenue potential. In the

39. The quoted language appears in both the Alabama and Pennsylvania statutes. ALA. CODE § 28-3-2(a) (1986); 47 PA. CONS. STAT. ANN. § 1-104(a) (West 1997). Four other state statutes include very similar language. MONT. CODE ANN. § 16-1-101(3) (1999); UTAH CODE ANN. § 32A-1-103 (1999); VT. STAT. ANN. tit. 7, § 1 (1999); WASH. REV. CODE ANN. § 66.08.010 (West 1985 & Supp. 2000).

40. UTAH CODE ANN. § 32A-1-104(3) (1999).

41. *Id.* Oregon law forbids advertising and window displays by state liquor stores. OR. REV. STAT. § 471.750 (1997). A Washington statute provides that net annual revenue from state liquor stores is not to exceed 35% of gross sales. WASH. REV. CODE ANN. § 66-16.010(1) (West 1985 & Supp. 2000). The detailed pricing instructions in the North Carolina statute give no indications of an intent to maximize profits. N.C. GEN. STAT. § 18B-804(b) (1999).

42. IDAHO CODE § 23-203 (Michie 1995).

43. N.H. REV. STAT. ANN. § 177:3(II) (1994). Lest the point be missed, another statute provides that one of the "primary duties" of the liquor commission is to "[o]ptimize the profitability of the commission." N.H. REV. STAT. ANN. § 176:3(I) (1994). The Maine laws governing state liquor stores call for a profit-maximizing (rather than sumptuary) model of operation, but only for two specified stores catering primarily to out-of-state customers. *See* ME. REV. STAT. ANN. tit. 28-A, § 201 (West 1988) (directing the Maine Turnpike Authority to put up an advertising sign for the Kittery discount liquor store, "[i]n order to increase state revenues and to attract more of the tourist trade"); *id.* § 403 (authorizing discount liquor stores at two specified locations).

end this may simply mean that New Hampshire has two unjustifiable practices rather than one.

Whether the focus is on state excise taxes, federal excise taxes, or state retail monopolies, the bottom line is the same. Governments in the United States (with the exception of maverick New Hampshire) make no attempt to maximize tax revenues or government profits from the sale of alcoholic beverages.

C. *Excise Taxes on Tobacco Products*

In sharp contrast to the many statements of profit-maximizing purpose in lottery legislation, no state has an announced policy of attempting to maximize excise tax revenue from cigarettes and other tobacco products. There is tremendous variation in state cigarette excise tax rates, from a low of 2.5 cents per pack in Virginia⁴⁴ to a high of \$1.11 per pack in New York⁴⁵ (followed closely by \$1 per pack in Alaska and Hawaii⁴⁶) with a median rate of 34 cents per pack.⁴⁷ Even the states with the highest rates do not appear to be maximizing their tax revenue, either in terms of purpose or result. As was expected, Alaska's 345% tax rate increase (from 29 cents to \$1 per pack) in 1997 has resulted in only a 13% decrease in sales.⁴⁸ Tobacco tax revenues for the first full year of Alaska's new tax rate have been estimated at \$49.8 million—more than triple the \$13.7 million for the last full year of the old rate.⁴⁹ With such a favorable revenue impact from this increase, if Alaska's goal were revenue maximization the obvious next step would be to experiment with additional rate increases, until the state locates the revenue-maximizing rate by trial-and-error.⁵⁰ But Alaska has not increased its cigarette tax in the three years since 1997.

44. VA. CODE ANN. § 58.1-1001 (Michie 1997).

45. N.Y. TAX LAW § 471 (McKinney 1999).

46. ALASKA STAT. § 43.50.090(a) (Michie 1998); HAW. REV. STAT. § 245-3(a)(1)(B) (1999).

47. Cigarette tax rates for all fifty states (and the District of Columbia) are compiled by the Federation of Tax Administrators, and they are available on the Federation's Web site, <http://www.taxadmin.org/fta/rate/cigarett.html>.

48. See Bob Tkacz, *DOR: With Higher Cigarette Tax, Sales are Down, Revenues Up*, 15 ST. TAX NOTES 588, 588 (1998).

49. See *id.*

50. Alaska's geographic isolation probably makes it less susceptible than most states to the smuggling of cigarettes from neighboring low tax jurisdictions, so that increased rates might cause smaller reductions in sales than in other states more vulnerable to smuggling. The same is likely true of Hawaii.

It is theoretically possible that the top of the "Laffer curve" (i.e., the revenue-maximizing tax rate) is somewhere between 29 cents and \$1 per pack, so that the new tax

In 1998 California voters narrowly approved Proposition 10, raising the state's cigarette tax from 37 to 87 cents per pack.⁵¹ The voters who approved Proposition 10 were given no reason to believe they were voting to maximize cigarette tax revenue. Although the purpose was to raise revenue to fund early childhood development programs—the official revenue estimate for the tax increase was over \$700 million annually⁵²—the proponents gave no indication that the 87 cents rate was designed to *maximize* revenue. Nothing in either the text of Proposition 10 or in the supporting argument in the official California voter's guide gave any indication of how the size of the tax increase was chosen.⁵³ The rate probably reflected a political judgment as to the largest increase that could win voter approval. Given the narrowness of the victory, that judgment proved remarkably astute. If the revenue forecasts for Proposition 10 prove reasonably accurate, that will suggest that the forty-six states with lower—in most cases, much lower—rates are not maximizing their cigarette tax revenue (at least unless they face substantially higher price elasticities of demand for cigarettes than does California).⁵⁴

Most recently, New York more than doubled its cigarette tax—from 55 cents to \$1.11 per pack—effective March 1, 2000.⁵⁵ The purpose of the tax increase was to generate \$400 million of additional

rate is somewhat *above* the revenue-maximizing rate. That result was certainly not the intent, however, and in any event the huge increase in revenue suggests that if the new rate overshoots the revenue-maximizing rate, it does not do so by very much.

51. California Children and Families Act of 1998, CAL. HEALTH & SAFETY CODE § 130100 (West 2000). The margin of approval was less than one percent of the total votes cast. See Carol Ingram, *Cigarette Tax Measure Wins Close Race*, L.A. TIMES, Nov. 12, 1998, at A3.

52. California Secretary of State, *Vote 98*, at <http://Vote98.ss.ca.gov/VoterGuide/Propositions/10.htm> (last visited Nov. 11, 2000) (official voter guide).

53. Rob Reiner, *California Proposition 10 Would Increase Tobacco Tax*, 1998 ST. TAX TODAY 183-2, Sept. 22, 1998, *passim*, at LEXIS, LEXSTAT 98 STN 183-2. (offering no explanation of how the tax rate was chosen); California Secretary of State, *supra* note 52 (presenting the argument by proponents of Proposition 10).

54. This assumes that at 87 cents per pack California is not *above* the revenue-maximizing tax rate. See *supra* note 50. Although a state might intentionally impose a cigarette tax above the revenue-maximizing level—thus elevating the goal of discouraging smoking over the goal of raising revenue—that clearly was not the purpose behind Proposition 10. The California voter's guide explains Proposition 10 solely as a revenue-raising measure, and *not* as a device for discouraging smoking by increasing its cost. California Secretary of State, *supra* note 52 (noting that some of the revenues will be spent on anti-smoking education, but saying nothing about the behavioral effect of the tax itself). Because a rate above the revenue-maximizing level would mean less money for childhood development programs and a greater likelihood of defeat at the polls, it certainly would not have been selected intentionally.

55. N.Y. TAX LAW § 471 (McKinney 1999).

annual revenue to finance expanded health care coverage for the uninsured.⁵⁶ It is unclear whether the New York legislature was aiming for the revenue-maximizing tax rate, but given the revenue-driven nature of the increase it is clear that the goal was not to raise the tax rate *above* the revenue-maximizing level. If New York is right that \$1.11 is not above the revenue-maximizing rate, then every other state must be below the revenue-maximizing rate (again, with the possible exception of a state facing a significantly higher price elasticity of demand for cigarettes than New York).

The recent cigarette sales in Alaska, and the California and New York revenue predictions, reflect short run elasticities of demand.⁵⁷ With an addictive product such as cigarettes, demand elasticities may be much greater in the long run than in the short run. The leading study of cigarette demand elasticities indicates "that the long-run price elasticity is almost twice as large as the short-run price elasticity."⁵⁸ Because smoking is addictive, consumption of cigarettes in any given year is positively related to consumption levels in previous years. When a tax increase reduces consumption in the first year of the increase, that reduction causes "consumption in . . . all future years to fall."⁵⁹ As a result, the long run revenue-maximizing rate will be substantially lower than the short run revenue-maximizing rate.

Although the evidence from Alaska, California, and New York suggests that all (or nearly all) states are below their short run revenue-maximizing rates, perhaps some states are at, or even above, their long run revenue-maximizing rates.⁶⁰ A 1994 econometric study by David Merriman investigates and strongly rejects this possibility.⁶¹ Using the best available estimates of the long run price elasticity of

56. Raymond Hernandez, *New York Raising Tax on Cigarettes to Help Uninsured*, N.Y. TIMES, Dec. 18, 1999, at A1.

57. See RICHARD MCGOWAN, BUSINESS, POLITICS AND CIGARETTES 100-04 (1995). McGowan studied the revenue effects of recent tax increases in three moderately high cigarette tax states—Rhode Island, Massachusetts, and Washington. *Id.* In each case he found that the short run result was a significant increase in tax revenue. *Id.*

58. Gary S. Becker et al., *An Empirical Analysis of Cigarette Addiction*, 84 AM. ECON. REV. 396, 397 (1994).

59. *Id.* at 397.

60. James M. Buchanan and Dwight R. Lee have hypothesized that elected officials, acting rationally but with an interest only in short term revenue effects, might select commodity tax rates which maximize short term revenue, but which exceed the long term revenue-maximizing rates. James M. Buchanan & Dwight R. Lee, *Tax Rates and Tax Revenues in Political Equilibrium: Some Simple Analytics*, 20 ECON. INQUIRY 344, 346 (1982).

61. David Merriman, *Do Cigarette Excise Tax Rates Maximize Revenue?*, 32 ECON. INQUIRY 419, 428 (1994).

demand for cigarettes, Merriman found that "in all states, the cigarette excise tax rate is far below the revenue-maximizing rate."⁶² In fact, "[e]ven if long-run cigarette consumption was twice as sensitive to changes in price as . . . empirical results suggest, all states' marginal revenues [from a permanent one-cent per pack tax increase] would be positive."⁶³ Even if large tax increases subsequent to Merriman's study may have made this less certain in a few states, there is no evidence that any state has ever intentionally maximized revenue (either short run or long run) from cigarette excise taxes.⁶⁴

Revenue maximization has also never been the goal of the federal cigarette tax. Pursuant to 1997 legislation, the federal rate rose from 24 to 34 cents per pack on January 1, 2000, and is scheduled to rise to 39 cents in 2002.⁶⁵ Even the 39 cents rate is far below economists' estimates of the long-term revenue-maximizing federal rate, which are in the neighborhood of \$1 per pack.⁶⁶ The untapped federal revenue potential is also indicated by the Treasury Department's estimate that a 1999 Clinton administration proposal to increase the tax to 94 cents per pack would raise federal tax revenues by \$34 billion over a five-year period.⁶⁷ Despite the consensus of the

62. *Id.*

63. *Id.* at 427.

64. The most significant change in state cigarette taxes since Merriman's study is not officially a tax at all. The 1998 \$206 billion settlement between the leading cigarette manufacturers and forty-six states is the functional equivalent of an excise tax of 35 to 40 cents per pack. Barry Meier, *Cigarette Makers Announce Large Price Rise*, N.Y. TIMES, Nov. 24, 1998, at A20. If this happened to put a few states at or near revenue maximization, it would have been an accident. For a detailed critique of the tobacco settlement as a tax, see Jane G. Gravelle, *Burning Issues in the Tobacco Settlement Payments: An Economic Perspective*, 51 NAT'L TAX J. 437 *passim* (1998).

65. 26 U.S.C. § 5701(b)(1) (1994), amended by the Balanced Budget Act of 1997, Pub. L. No. 105-33 § 9302(a), 111 Stat. 251, 671 (1997) (codified as amended at 26 U.S.C. § 5701(b)(1) (1994 & Supp. IV 1998)).

66. For the only thoroughly reported study on this question, see John D. Jackson & Richard P. Saba, *Some Limits on Taxing Sin: Cigarette Taxation and Health Care Finance*, 63 S. ECON. J. 761, 773 ("[T]he revenue maximizing federal tax per pack on cigarettes is \$1.10."). Two leading authors on the long-run price elasticity of demand for cigarettes have reported without detailed explanation *different* revenue-maximizing federal tax rates, based on data from their study. Compare Gary S. Becker, *Warning: A Cigarette Tax May be Hazardous to Health Financing*, BUS. WK., Aug. 15, 1994, at 18 (95 cents per pack), with Michael Grossman, *For Best Revenue, Tax Cigarettes \$1.26*, N.Y. TIMES, June 18, 1993, at A26.

67. See *Treasury Releases Explanation of Administration's 2000 Budget Proposal*, 1999 TAX NOTES TODAY 21-36, Feb. 2, 1999, ¶ 774, at LEXIS, LEXSTAT 1999 TNT 21-36. Although this might approximate, or even exceed, the long-term revenue-maximizing rate, the Treasury does not cite revenue maximization as a goal. Rather, it explains the proposal as a way of compensating the federal government for its "tobacco-related health care costs." *Id.* at ¶ 773. The revenue-based justification indicates that the rate is not

experts that current rates leave considerable room for revenue-raising rate increases, Congress has not yet even approached the revenue-maximizing rate.⁶⁸

The states and the federal government have imposed heavy tax burdens on cigarettes and other tobacco products, but extracting every possible dollar out of tobacco users has never been the goal. The contrast with the standard revenue-maximizing approach to lotteries is evidenced not only by the tax rates, but also by other anti-smoking laws. If the states were determined to make as much money as possible from cigarettes, they would not have enacted laws prohibiting smoking in so many public places.⁶⁹ By the same token, a federal government out to maximize cigarette tax revenue would not have prohibited cigarette advertising on television and radio.⁷⁰ In both tax and non-tax laws, the states and Congress have demonstrated that government policy toward smoking cannot be summed up as one of revenue maximization. The difference from lottery policy is clear.

D. Vanity License Plates

Every state permits vehicle owners to buy "vanity" (or, less pejoratively, "personalized") license plates, with the alphanumeric combination chosen by the owner. Fees vary greatly from state to state. More expensive states include Alabama (\$50 annual fee), Delaware (\$40 annual fee), and Texas (\$40 annual fee).⁷¹ Good bargains can be found in Virginia (\$10 annual fee), Florida (\$10 annual fee and \$2 one-time processing fee), and Pennsylvania (\$20 one-time fee).⁷²

designed, at least, to be above the revenue-maximizing level.

68. All of the experts' estimates predate the quasi-tax increase from the states' tobacco settlement described *supra* note 64. The settlement would lower the revenue-maximizing federal rate to some extent, but the rate would remain well above the statutory rate (starting in 2002) of 39 cents. The 35 to 40 cents quasi-tax of the settlement would not use up all the room between the 39 cents federal rate and the estimated revenue-maximizing rate of \$1.

69. According to the American Cancer Society, as of 1996 there were laws in forty-nine states and the District of Columbia restricting or prohibiting smoking in public places. AM. CANCER SOC'Y, QUESTIONS ABOUT SMOKING, TOBACCO AND HEALTH 11 (1996). Among the most sweeping restrictions are CAL. GOV'T CODE § 19994.30-19994.35 (West 1995) (banning smoking in all buildings open to the public), and N.Y. CITY ADMIN. CODE § 17-501 to 17-504 (McKinney 1994) (banning smoking in almost all places of employment, including larger restaurants).

70. See 15 U.S.C. § 1335 (1994).

71. ALA. CODE § 32-6-150(a) (1999); DEL. CODE ANN. tit. 21 § 2121(h) (1995); TEX. TRANSP. CODE ANN. § 502.251(c) (Vernon 1999).

72. FLA. STAT. ANN. § 320.0805(2) (West 1990); 75 PA. CONS. STAT. § 1931 (1996);

It is not clear how many states, if any, intend vanity plate fees to raise as much revenue as possible from a flat-fee system. In striking contrast to the common directions for revenue maximization in lottery statutes, no vanity plate statute indicates such a purpose. The extent of the variation in fees suggests that at least some states are not close to the profit-maximizing fee, although a universal intent to maximize profits would not necessarily, or even probably, result in identical fees in all states.⁷³ Different states might believe, rightly or wrongly, that they faced different price elasticities of demand for the product.

An econometric study of vanity plate pricing in forty-three states and the District of Columbia demonstrated that in twenty-one of the forty-four jurisdictions, fees were substantially below the revenue-maximizing level.⁷⁴ This study reveals little, however, about *intent*. Some jurisdictions close to the revenue-maximizing fee may not have intended to maximize revenues, and other jurisdictions may have accidentally set fees too low while attempting to make as much money as possible. Mistake is the only plausible explanation for the eleven jurisdictions, which charged fees substantially *above* the revenue-maximizing level.⁷⁵

In any event, speculation about the revenue-maximizing flat fee is somewhat beside the point, because no flat-fee system can maximize profits from the sale of vanity plates. The way to maximize revenue from vanity plates is to auction off each alphanumeric combination desired by any vehicle owner. An auction enables the state to take advantage of the fact that each plate is a different product, subject to different demand.⁷⁶ Although no American jurisdiction auctions vanity plates, auctions have been tremendously lucrative for Hong Kong, raising \$80 million since 1973.⁷⁷ One plate sold for almost \$2 million in 1994, and another for \$1.3 million in

VA. CODE ANN. § 46.2-726 (Michie 1998).

73. As with alcohol, the variations in vanity plate fees are much larger than the variations in the implicit tax rates of state lotteries. See Clotfelter, *Turn of the Century*, *supra* note 2, at 2829 tbl. 3 (reporting implicit tax rates of state lotteries); *supra* text accompanying notes 25–30 (describing variations in alcohol tax rates).

74. Neil O. Alper et al., *At What Price Vanity?: An Econometric Model of the Demand for Personalized License Plates*, 40 NAT'L TAX J. 103, 107–08 (1987).

75. See *id.*

76. Although the authors of the econometric pricing study note that “[i]n the eyes of the consumer not all personalized plates license plates are equal,” they do not consider the possibility of auctions. *Id.* at 103.

77. Rone Tempest, *In Hong Kong, Health, Wealth PAID4 with Big Money*, L.A. TIMES, Jan. 16, 1999, at A2.

1993.⁷⁸ The only way to purchase a particular vanity plate in Hong Kong is to request that it be put on the auction list, and then to prevail at auction (with the minimum bid set at \$260).⁷⁹

When vanity plates were introduced, it is possible that the failure of states to sell by auction reflected either a simple failure of imagination, or a belief that auctions were logistically impossible in a geographically large state (although that would not explain Rhode Island or the District of Columbia). Hong Kong's example has solved the former problem, and the internet has solved the latter, but still no state has adopted auction sales of vanity plates. Without auctions, no state is making a serious attempt to realize monopoly profits from the sale of vanity plates.

E. Federal Communications Commission Spectrum Auctions

Since 1994, the federal government has attempted to maximize revenue from its control over the radio spectrum by selling non-broadcast spectrum licenses at auctions conducted by the Federal Communications Commission (FCC).⁸⁰ Although non-broadcast spectrum auctions share the revenue-maximizing goal of lotteries, there is a crucial difference. While lotteries are designed to extract the maximum revenue from lottery *consumers*, spectrum auctions are designed to extract as much money as possible from the *producers* of personal communications services. Whether the producer receives a free spectrum license from the government or purchases it at auction, thereafter the cost (if any) of obtaining the license is fixed for the producer. The price to the consumer of personal communications services will be a function of the producer's *marginal* cost curve.

78. *Id.*

79. *Id.*

80. The auctions were authorized by the Omnibus Budget Reconciliation Act of 1993 § 6002, 47 U.S.C. § 309(j) (1994). The FCC held the first auction on July 25, 1994, and in less than two years auction revenues exceeded \$20 billion. See Federal Communications Commission press release, *FCC Hits \$20 Billion Mark in Total Auction Revenues*, at www.fcc.gov/Bureaus/Wireless/News_Releases/nrw16015.txt (Apr. 5, 1996) (on file with the North Carolina Law Review). For an excellent discussion of the issues surrounding spectrum auctions, see generally Thomas W. Hazlett, *Assigning Property Rights to Radio Spectrum Users: Why Did FCC License Auctions Take 67 Years?*, 41 J.L. & ECON. 529 (1998).

Congress has not, however, adopted a consistent policy of revenue maximization in the allocation of spectrum rights. Broadcast incumbents were given high-definition television (HDTV) licenses at no charge, and broadcast license renewals are not subject to the auction procedure. Balanced Budget Act of 1997 § 3002(a)(1)(A), 47 U.S.C. § 309(j)(1), (2)(b) (Supp. IV 1998) (authorizing auctions of radio and television licenses, but exempting HDTV licenses and all license renewals); Telecommunications Act of 1996 § 201, 47 U.S.C. § 336 (Supp. IV 1998) (HDTV).

Thus the cost to the consumer will be the same whether the producer received the license as a windfall or paid dearly for it. Replacing license giveaways with auctions reduces producer profits; it does not increase cost to the consumer.⁸¹ Even after the 1994 introduction of spectrum license auctions, it remains true that only in the case of lotteries is it standard government practice to wring as much money as possible from the consumers of a particular product.⁸²

III. UNSUCCESSFUL JUSTIFICATION ATTEMPTS

A. *An Efficient Tax?*

1. Standard Efficiency Analysis

The basic economic objection to a tax on any activity is that the tax creates an efficiency loss to the extent the tax discourages people from engaging in the activity.⁸³ The magnitude of the efficiency loss depends on the elasticity of the demand for the activity. At one extreme, a tax on an activity for which the demand is perfectly inelastic would have no effect on behavior, and would therefore create no efficiency loss. If lottery gambling were completely unresponsive to the size of the implicit tax, it would be an appropriate target for revenue maximization from an efficiency standpoint (although the tax might still be objectionable on distributional grounds). Less fancifully, if gambling were less elastic than alternative objects of taxation, a revenue-maximizing lottery might be chosen for its low efficiency cost.

81. See R. H. Coase, *The Federal Communications Commission*, 2 J. L. & ECON. 1, 22-23 (1959) (noting that the effect of de facto sales of broadcast licenses, in connection with the sale of radio and television stations, "is, of course, to reduce the return by the new owners to (or at any rate nearer to) the competitive level").

82. It is standard government practice, of course, to sell seized and forfeited property at auction, and these sales—of cars, for example—are often made directly to the consumer. See, e.g., 21 U.S.C. § 881(e)(1)(B) (1994 & Supp. 1998) (authorizing auction sales of property forfeited pursuant to federal drug laws); N.C. GEN. STAT. § 15-13 (1999) (authorizing sheriffs and police departments to sell seized property at auction); N.C. GEN. STAT. § 18B-504(f) (1999) (authorizing auction sale of property used to transport non-tax paid alcoholic beverages); N.C. GEN. STAT. § 20-141.3(g) (1999) (authorizing auction sale of vehicles raced on streets). These auction sales, however, make the government only a casual and very small seller in the used car market (for example); they hardly represent a government attempt to extract as much revenue as possible from the universe of consumers of used cars.

83. This is apart from the possibility of Pigovian taxation, designed to further efficiency goals in response to concerns about the negative externalities of the taxed activity. See discussion *infra* text accompanying notes 92-96.

The efficiency case for a revenue-maximizing lottery, however, is unproven and implausible. In 1987, Clotfelter and Cook compared the implicit tax on state lotteries with excise tax rates on alcohol and tobacco.⁸⁴ The average lottery tax rate of 46%⁸⁵ was substantially higher than the average rates for liquor (30%), wine (13%), beer (12%), and tobacco products (33%).⁸⁶ This difference could be justified on efficiency grounds only if the demand for lottery products were substantially less elastic than the demand for alcohol and tobacco. Although Clotfelter and Cook do not attempt an empirical study of relative elasticities, they note that a substantially lower elasticity for lotteries seems unlikely.⁸⁷ The burden should be on advocates of revenue-maximizing lotteries to prove the unusually low elasticity of lottery demand, but there has been no attempt to do so.

More recently, William W. Rodgers and Charles Stuart have examined the efficiency question by comparing the lottery tax not to other excise taxes, but to an increase in the tax on labor income.⁸⁸ They consider, as an alternative to a revenue-maximizing lottery, an untaxed lottery plus an increase in the tax on wages sufficient to make up for the loss in lottery revenues.⁸⁹ They find "that under a wide range of assumptions, the labor tax is more efficient than the lottery tax as a source of marginal public revenue."⁹⁰

These results are not surprising. Revenue lotteries were introduced because they were politically feasible, not because studies indicated they were more efficient than other ways of raising the same amount of revenue. The surprise would have been if there *was an*

84. Charles T. Clotfelter & Philip J. Cook, *Implicit Taxation in Lottery Finance*, 40 NAT'L TAX J. 533, 543(1987) [hereinafter Clotfelter & Cook, *Implicit Taxation*].

85. *Id.* at 543. This was the tax-inclusive rate, i.e., for every dollar gambled in a lottery, the states took 41 cents and the federal income tax burden averaged 5 cents. The tax-exclusive rate—the implicit tax as a percentage of the pre-tax cost of the product—was an impressive 85%. *Id.* at 544.

86. *Id.* at 543. In a recent follow-up study, Clotfelter, Cook and co-authors noted that the difference in tax rates is less dramatic today. Clotfelter, *Turn of the Century*, *supra* note 2, at 7–10. Excise tax rates on alcohol and tobacco have risen (especially on tobacco, see discussion *supra* text accompanying notes 48–70), and the implicit tax-exclusive rate on lotteries has fallen from 85% to about 61%. (The decrease was due to changes in consumer demand, not to abandonment of the goal of revenue maximization.) They note, however, that lottery tax rates remain "quite high compared to tax rates on other commodities that states tax, such as alcoholic beverages and tobacco products." *Id.*

87. See Clotfelter & Cook, *Implicit Taxation*, *supra* note 84, at 543.

88. See William W. Rodgers & Charles Stuart, *The Efficiency of a Lottery as a Source of Public Revenue*, 23 PUB. FIN. Q. 242 *passim* (1995).

89. *Id.* at 243.

90. *Id.* at 252.

efficiency case for revenue-maximizing lotteries as causing an especially small amount of distortion.

Both efficiency studies of the lottery tax point out that the introduction of even a highly-taxed lottery produces an efficiency gain—improves consumer welfare—compared with an alternative of no lottery.⁹¹ A revenue-maximizing lottery is an efficiency improvement, however, only compared to the state-created alternative of no legal lotteries. If the universe of policy options includes—as it should—a less heavily taxed lottery with the lost revenue recouped by an increase in other excise taxes or in wage taxes, there is no efficiency case based on low distortion to be made for a revenue-maximizing lottery.

2. A Pigovian Tax?

A different kind of efficiency analysis is used in support of some taxes. This analysis justifies a tax not because it causes little change in behavior relative to the no-tax alternative, but because it induces *efficient* changes in behavior compared with the no-tax world. These taxes are sometimes referred to as Pigovian taxes, after A. C. Pigou, who first described them.⁹² In the absence of a cigarette tax, for example, people might consume an inefficiently *high* number of cigarettes because they fail to consider the external costs smoking imposes on others, or even the future costs smoking imposes on themselves. A high tax rate on cigarettes might serve as a proxy for those unconsidered costs, and thus reduce smoking to a more efficient level.⁹³ Although lottery gambling is not so clearly a candidate for Pigovian taxation as are cigarettes and alcohol (because its negative externalities are less pronounced), a Pigovian case could probably be made for high lottery tax rates. The problem is that proponents of revenue-maximizing state lotteries are in no position to make the case. The states cannot do everything in their power through

91. See Clotfelter & Cook, *Implicit Taxation*, *supra* note 84, at 535; Rodgers & Stuart, *supra* note 88, at 243, 248.

92. See generally A.C. PIGOU, *A STUDY IN PUBLIC FINANCE* (3d ed. 1947) (pioneering the use of taxes to induce efficient behavioral changes).

93. See, e.g., Gravelle, *supra* note 64, at 444–51 (evaluating—not very favorably—the recent tobacco settlement from a Pigovian tax perspective); Michael Grossman & Frank J. Chaloupka, *Cigarette Taxes: The Straw to Break the Camel's Back*, 112 PUB. HEALTH REP. 290, 290 (1997) (discussing the use of cigarette taxes to discourage teenage smoking); Kenkel & Manning, *supra* note 30 *passim* (discussing alcohol taxation as a means to promote public health goals); W. Kip Viscusi, *Promoting Smokers' Welfare with Responsible Taxation*, 47 NAT'L TAX J. 547, 555–56 (1994) (discussing cigarette taxation for the purpose of discouraging smoking and promoting efficiency by forcing internalization of costs).

advertising and other forms of marketing to *encourage* lottery consumption, and then turn around and justify the high implicit tax rates as a means of discouraging consumption.⁹⁴ There may be a Pigovian case for high implicit tax rates on lotteries, but there is not a Pigovian case for aggressively marketed revenue-maximizing lotteries. The Pigovian lottery would follow the sumptuary (liquor store) model—high implicit tax *and* no attempt to use marketing or advertising strategies to encourage consumption.⁹⁵ Only the Virginia, Wisconsin, and Minnesota lotteries even remotely resemble this model.⁹⁶

B. *A Distributionally Attractive Tax?*

A high lottery tax might be appealing, despite its efficiency cost, if it produced a desirable distribution of the tax burden. Surveying the literature in 1989, Clotfelter and Cook remarked that “[a]bsolute expenditures [on lottery tickets] appear to be remarkably uniform over a broad range of incomes.”⁹⁷ If dollars gambled per capita are almost flat across the income distribution, then the lottery tax resembles a head tax (i.e., a tax of a flat dollar amount per person) in its distributional effect. Like a head tax, its incidence with respect to income is highly regressive.⁹⁸ Recent survey data indicate a pattern of

94. Note the White Knight’s Song in *Through the Looking Glass*: “But I was thinking of a plan/To dye one’s whiskers green/And always use so large a fan/That they could not be seen.” LEWIS CARROLL, *THE ANNOTATED ALICE* 311 (Martin Gardner ed., 1960).

95. See discussion of the sumptuary lottery model *infra* text accompanying note 168.

96. See *supra* text accompanying notes 14–17 (describing advertising restrictions in the lottery statutes of those three states).

97. CLOTFELTER & COOK, *SELLING HOPE*, *supra* note 3, at 99.

98. See *id.* at 221–27. For a challenge to the conventional wisdom that the lottery tax is regressive, see Lloyd R. Cohen, *Lotteries, Liberty and Legislatures*, George Mason University Law School Law and Economics Working Paper No. 00-01 (Feb. 2000), available at http://papers.ssrn.com/paper.taf?abstract_id=210008 (last visited Nov. 15, 2000) (on file with the North Carolina Law Review). According to Cohen, the key question in analyzing the distributional effect of the implicit lottery tax is how the world would change if the lottery continued to operate, but without the tax. See *id.* at 9. Suppose, for example, a state operates a lottery in which one million people—all with low incomes—wager \$10 each, a single winner is paid \$5 million, and the state makes a \$5 million profit. If the implicit tax is removed, the resulting lottery might take several different forms. At one extreme, the payout—one winning ticket paying \$5 million—might be unchanged, but the public might wager only \$5 million. Cohen concedes that the implicit tax would be regressive if that were the tax-free alternative; the effect of the tax in that case is that the state takes \$5 million from low-income persons. See *id.* at 9. At the other extreme, the public might continue to wager \$10 million, but the single winning ticket might pay \$10 million instead of only \$5 million. In that case, Cohen contends, the implicit tax is highly *progressive*; it has the effect of taking \$5 million from the rich lottery winner (who wins \$5 million with the tax, compared to \$10 million without). See *id.* Cohen offers an educated guess that the most likely result of eliminating the tax is neither

lottery taxation even more regressive than a head tax. In a 1998 national survey, the National Opinion Research Center found that household income has little effect on dollars of lottery play up to \$50,000 income, but that above that level dollars of play per household fall off sharply.⁹⁹

Of course, a lively perennial debate continues on the appropriate distribution of the tax burden, and it may be possible to defend a regressive tax, especially in the context of a tax system with other proportional or progressive elements. It is striking, however, that the public debate is almost exclusively on the merits of proportional versus progressive taxes.¹⁰⁰ Principled defenses of regressivity are extremely rare,¹⁰¹ and are unlikely to make much headway with the

of these extremes, but rather an increase in the number of prizes. *See id.* at 25–27. For example, the public might continue to wager \$10 million, but the tax-free lottery might offer two winning prizes of \$5 million each. In that case, the effect of the implicit tax is that one person who would be a winner in the tax-free lottery remains poor. Cohen calls that a “marvelously ambiguous effect that cannot fairly be described as either progressive or regressive.” *Id.* at 27.

Whatever one may think of the theoretical merits of Cohen’s analysis, it is unlikely to influence the public debate about the distributional effects of lotteries. When the public sees the government making a \$5 million profit by pocketing lottery dollars gambled by one million poor persons, it is unlikely to be persuaded by Cohen’s argument that the \$5 million really comes not from the one million poor but from one unidentified would-be winner. A distributional argument based on a hypothetical winner in a hypothetical different lottery is not likely to have much popular appeal.

In addition to imposing a heavy burden on the public imagination, Cohen’s analysis is based on the assumption that the distributional effect of the lottery tax should be determined *ex post*—that is, after the lottery has been held and the winners and losers are known. If the distributional effect is instead analyzed *ex ante*—after the tickets are purchased but before the lottery is held—then the implicit tax is clearly regressive (given the assumption that the lottery players all have low incomes). With the implicit tax, each \$1 ticket buys a gamble with an expected return of 50 cents; without the tax—under any of the three scenarios—\$1 buys an expected return of \$1. The 50 cents implicit tax on each ticket can be understood as imposed at the time of purchase, with regressive effect, without regard to eventual winners and losers.

Cohen makes a second, more persuasive point about the distributional effect of the implicit lottery tax. Even if the tax is regressive, it is only a small part of a state’s revenue system; as long as the distribution of the state’s overall tax burden is considered appropriate, it is not clear why it should be troubling that one small part of the system is regressive if viewed in isolation. *See id.* at 8.

99. *See* Clotfelter, *Turn of the Century*, *supra* note 2, at 13, 33 tbl. 11.

100. *E.g.*, ROBERT E. HALL & ALVIN RABUSHKA, *THE FLAT TAX passim* (2d ed. 1995) (arguing the superiority of a flat-rate consumption tax to a progressive marginal rate income tax); JOEL SLEMMOD & JON BAKIJA, *TAXING OURSELVES: A CITIZEN’S GUIDE TO THE GREAT DEBATE OVER TAX REFORM* 49–73 (1996) (examining arguments for and against progressivity); Lawrence Zelenak & Kemper Moreland, *Can the Graduated Income Tax Survive Optimal Tax Analysis?*, 53 *TAX L. REV.* 51, 57 (1999) (demonstrating that progressive rates can be welfare-maximizing under some conditions).

101. *But see* Jeffrey Schoenblum, *Tax Fairness or Unfairness? A Consideration of the*

public.¹⁰² In short, the idea that a revenue-maximizing lottery tax is attractive precisely *because* of its highly regressive impact is absurd.

Questions of regressivity are at the center of much of the lottery policy debate. Lottery opponents complain of regressivity,¹⁰³ proponents counter not by defending regressivity, but by arguing the lottery should not be thought of as a tax,¹⁰⁴ or that if it is a tax its “voluntary” nature makes distributional concerns irrelevant.¹⁰⁵

This Article is *not* intended as another contribution to the regressivity debate; its critique of lotteries is based on their unique goal of maximizing government revenue from the consumers of a particular product. That uniqueness puts a burden on lottery proponents to justify their revenue-maximizing goal. The only relevance of regressivity to this argument is the implausibility that lottery proponents would invoke regressivity in an attempt to carry their burden of persuasion.¹⁰⁶

C. *Frivolous Lotteries and Necessary Utilities?*

Rather than attempting to prove the merits of a revenue-maximizing lottery by direct appeal to efficiency or distributional norms, a lottery defender might claim that a crucial distinction exists

Philosophical Bases for Unequal Taxation of Individuals, 12 AM J. TAX POL. 221 *passim* (1995) (arguing that the only fair tax is a head tax).

102. See SLEMMROD & BAKIJA, *supra* note 100, at 47–48 (recounting the short, unhappy life of the “community charge,” a sort of head tax, imposed by the Thatcher government in Great Britain).

103. See, e.g., KARCHER, *supra* note 14, at 92–97 (setting forth several proposals to reduce lottery regressivity, including reducing the rate of the implicit tax).

104. See, e.g., Bill Poovey, *James, Siegelman Expect Close Alabama Contest*, CHATTANOOGA FREE PRESS, Nov. 3, 1998, at B4 (quoting Alabama gubernatorial candidate Don Siegelman that “the whole point” of his support of a lottery “is to raise money without raising taxes”).

105. See, e.g., Kevin Sack, *2 Democrats Hope Support for Lottery Will Help Break G.O.P. Grip on South*, N.Y. TIMES, Sept. 29, 1998, at A16 (quoting South Carolina gubernatorial candidate and lottery supporter Jim Hodges, that South Carolinians “see a lottery as a voluntary tax that you only pay if you play”). The characterization of the lottery as a voluntary tax is discussed *infra* text accompanying notes 107–16.

106. Optimal tax theory attempts to find welfare-maximizing excise tax rates, taking both efficiency and distributional concerns into account. See Martin S. Feldstein, *Distributional Equity and the Optimal Structure of Public Prices*, 62 AM. ECON. REV. 32 *passim* (1972). Because a revenue-maximizing lottery fares poorly on both efficiency and distributional counts, it will also fare poorly in the combined optimal tax analysis. See Clotfelter & Cook, *Implicit Taxation*, *supra* note 84, at 541–43 (noting that because of its regressive distributional effect, a lottery tax rate higher than the rates on alcohol and tobacco could be optimal only if lotteries were substantially less price elastic than those other products or if they have greater negative externalities, and “[n]either possibility seems very likely”).

between lotteries and those government monopolies commonly viewed as necessities—such as water, power, public transportation, and the postal service—which justifies revenue maximization for lotteries but not for utilities. The defender might claim that a lottery is a voluntary tax, since no one really needs to play, and that revenue maximization is always acceptable for a voluntary tax.¹⁰⁷ By contrast, the defender would assert that revenue maximization is an inappropriate goal for a tax on necessities; a revenue-maximizing tax on water, for example, would be unacceptably burdensome to the poor. Government can plausibly tell the poor not to play the lottery if they cannot afford the tax,¹⁰⁸ it cannot tell them not to drink or wash if tax has made water too expensive.

Despite its superficial appeal, this basis of distinction fares poorly under scrutiny. First, it is doubtful that lotteries are such a frivolous luxury for the poor that it would be sufficient to tell them to “just say no.” In a society that bombards the poor with images of conspicuous consumption and gives them few prospects other than the lottery of achieving such consumption for themselves, the hope one buys with a lottery ticket may not be an easily dispensable luxury. Lottery tickets may be the investments of the poor.¹⁰⁹ In any event, states distinguishing lotteries from water on the grounds that the poor should not play will be hypocritical until they stop their aggressive marketing of lotteries to the poor through advertising¹¹⁰ and the placement of outlets in poor neighborhoods.¹¹¹ Whatever the abstract merits of the idea that a revenue lottery is acceptable because those who cannot afford the tax should not play, that notion cannot be used to defend lotteries as they are currently marketed.

The attempted distinction between frivolous lottery tickets and necessary water is misleading in another respect. The concern with the welfare of the poor expressed in the argument implies that a

107. See, e.g., CLOTFELTER & COOK, *SELLING HOPE*, *supra* note 3, at 215 (stating, but not endorsing, the argument).

108. “Don’t bet more than you can afford to lose” is anything but a common theme, however, in lottery advertising.

109. For a well-developed argument along these lines, see generally Edward J. McCaffery, *Why People Play Lotteries And Why It Matters*, 1994 WIS. L. REV. 71 (discussing three explanations of why consumers play lotteries).

110. “New York’s ‘All you need is a dollar and a dream’ ad campaign was particularly emblematic of the theme that lotteries provide an avenue to financial success. The idea that a lottery is an investment in your future is particularly troublesome when targeted toward populations that are least able to afford to play.” NGISC REPORT, *supra* note 2, at 3.

111. KARCHER, *supra* note 14, at 58–60 (describing the practice of some lottery states to locate the heaviest concentration of lottery outlets in poor neighborhoods).

revenue-maximizing tax on water or electricity would be objectionable because it would be more regressive than a revenue-maximizing lottery. But the opposite is almost certainly true. As noted earlier, lottery play actually declines *in absolute dollars* (and not merely as a percentage of income) as income increases, making the lottery tax highly regressive.¹¹² Although water and electricity usage may not rise proportionally with income (in which case water and power taxes would be somewhat regressive), usage almost certainly rises with income.¹¹³ Ironically, then, a revenue-maximizing tax on the luxury of lotteries may be more regressive than a revenue-maximizing tax on the necessities of water and power.

In any event, the necessity-based objection to a government's extraction of monopoly profits from public utilities can be answered by a system charging the profit-maximizing price, but then rebating the implicit tax on subsistence-level consumption (either to the poor, or to all consumers if means-testing is considered impractical or undesirable).¹¹⁴ Despite the cost of rebates, this would almost certainly increase profits compared with current cost-based pricing of utilities. This system would maximize revenues (subject to the rebate constraint) *and* protect the poor from any tax on necessities.¹¹⁵ Given the availability of—and complete lack of interest in—this model for utility pricing, the necessities-versus-luxuries distinction cannot justify maximizing lottery revenue while not maximizing revenue from government-owned utilities.

As weak as the voluntary tax argument is in distinguishing lotteries from public utilities, the argument is of absolutely no use in distinguishing revenue-maximizing lotteries from the failure to impose revenue-maximizing taxes on alcohol and tobacco. If lottery revenues are voluntary taxes because lotteries are not necessities and one may choose not to play, then alcohol and tobacco taxes are also

112. See *supra* text accompanying note 99 (explaining that absolute dollars spent on lotteries decline as income rises above \$50,000).

113. It is not the poor who install automatic sprinkler systems in their expansive suburban lawns, for example.

114. A somewhat similar system—of a value-added tax combined with a universal rebate of the tax on subsistence consumption—is described in Lawrence Zelenak, *Flat Tax vs. VAT: Progressivity and Family Allowances*, 69 TAX NOTES 1129, 1129–32 (1995).

115. The same result could also be reached without a rebate by instituting a two-tier pricing system. The lower price (reflecting no implicit tax) would be imposed on subsistence-level water consumption; the higher price would be imposed on all other water consumption.

voluntary. Questions of addiction complicate the picture, but just as much for lotteries as for alcohol and tobacco.¹¹⁶

D. *The American Historical Precedent*

Although the current era of state lotteries in the United States dates back to only 1964, lotteries were common in eighteenth and nineteenth century America.¹¹⁷ If these early American lotteries were run on the revenue-maximizing model, that would at least supply a historical precedent for the modern approach, and we might then search for the hidden wisdom in that practice. Of course, even if history did support revenue-maximizing lotteries, the precedent might be rejected because circumstances have changed—in particular, because the development of municipal bond markets and alternative forms of taxation has decreased the need to exploit the full revenue potential of lotteries.¹¹⁸ The question is moot, however, because early American history does *not* provide a precedent for the modern revenue-maximizing lottery.

First, the states did not grant themselves lottery monopolies. In addition to lotteries for governmental purposes,¹¹⁹ legislatures frequently authorized lotteries for charitable purposes, especially churches and educational institutions (private and public).¹²⁰ Lotteries were even authorized for private and semi-private purposes.¹²¹ Before the Civil War, twenty-one states authorized 186 such lotteries.¹²² Favored purposes included relief of debt-ridden

116. See NGISC REPORT, *supra* note 2, at 4-1 to 4-19 (surveying the literature on the prevalence and costs of problem and pathological gambling, and making policy recommendations).

117. For the most comprehensive history of pre-twentieth century American lotteries, see JOHN SAMUEL EZELL, *FORTUNE'S MERRY WHEEL: THE LOTTERY IN AMERICA* (1960). Good shorter historical surveys include CLOTFELTER & COOK, *SELLING HOPE*, *supra* note 3, at 32-48; and Rychlak, *supra* note 14, at 23-44.

118. See CLOTFELTER & COOK, *SELLING HOPE*, *supra* note 3, at 35 (noting the "absence of other sources of public financing" at the time of the early American lotteries); Rychlak, *supra* note 14, at 31 (same).

119. For a detailed summary of lotteries for governmental purposes from 1790 to 1860, see EZELL, *supra* note 117, at 101-20.

120. *Id.* at 137-60 (surveying church and educational lotteries from 1790 to 1860). Ezell notes that twenty-three states authorized lotteries for educational purposes before the Civil War. See *id.* at 160. During this same period states also authorized numerous lotteries for internal improvements—primarily roads, bridges and canals. *Id.* at 121-36. Although such projects would be governmental today, they generally were not in the pre-Civil War era. See *id.*

121. *Id.* at 161-76 (surveying such lotteries up to the Civil War).

122. See *id.* at 176.

individuals¹²³ and the benefit of Masonic lodges.¹²⁴ The leading history of pre-twentieth century American lotteries describes governmental authorities as “avidly compet[ing] with their citizens for a share of the lottery’s wealth.”¹²⁵ This is hardly precedent for the carefully guarded monopoly profits of today’s state lotteries.

The other crucial difference between historic and modern practice is in the payout rates. In stark contrast with modern payouts averaging about 55%,¹²⁶ the standard in the late eighteenth and early nineteenth century was a payout rate of 85%.¹²⁷ There are several possible explanations for these high payout rates. One, of course, is competition. With churches, schools, and even some private individuals competing with the states for lottery dollars (albeit only to the extent the states permitted competition), payout rates would be higher (and implicit taxes would be lower) than under a state lottery monopoly.¹²⁸ Another possibility is that with individuals having so many opportunities to make a fortune in a rapidly expanding country, lotteries had to have high payout rates to be attractive.¹²⁹ Yet another possible explanation is that payouts were not *intended* to maximize profits. Lotteries had to be authorized by state legislatures, and a legislature might condition authorization on a high payout, in order to shift some of the benefit of the lottery from the sponsoring church or school to the gambling public.

The only American forerunner of the low payout rates characteristic of modern state lotteries is not a happy example. The

123. The most famous example was Virginia’s 1826 grant of authority to Thomas Jefferson to dispose of land by lottery to pay his debts. *See id.* at 168–70. Jefferson died before the lottery could be carried out. *See id.* at 170.

124. *Id.* at 176 (noting “the favored position of the Masonic order”).

125. *Id.* at 102.

126. *See* Clotfelter, *Turn of the Century*, *supra* note 2, at 7 (based on state lottery data for fiscal year 1997).

127. R. Clay Sprowls, *A Historical Analysis of Lottery Terms*, 20 CAN. J. OF ECON. & POL. SCI., 347, 354–55 (1954). Of forty-nine pre-1815 lotteries surveyed by Sprowls, thirty-eight had payouts at or above 85%. *See id.* at 355 fig.1. Sprowls notes that the 85% payout was featured in the advertisements for many lotteries. *See id.* at 354. Payouts declined after 1815, but only modestly. Of fourteen post-1815 lotteries considered by Sprowls, only one had a payout below 75%. *See id.* at 355. Ezell also refers to “the customary 15%” withheld from the payout of late eighteenth century lotteries. EZELL, *supra* note 117, at 67.

128. As an example of the effect of competition, Ezell notes that a 1780 lottery with a payout of 80% instead of the standard 85% “proved unpopular.” *Id.* at 67. Even lotteries with 85% payouts sometimes failed to attract enough consumer interest to succeed. *See id.* at 38, 44–45 (providing examples).

129. Sprowls speculates that in the early United States “the alternatives open to an individual to make a large income were such that gambles had to be more fair than in older, more established countries.” Sprowls, *supra* note 122, at 356.

post-Civil War Louisiana Lottery Company enjoyed a lottery monopoly—not only in Louisiana, but nationally through the use of the mails¹³⁰—and exploited that monopoly by featuring a then-unprecedented payout rate of 52%.¹³¹ The monopoly profits inured to the benefit of the owners of the lottery franchise, not to the state.¹³² As evidence of fraud and corruption in the Louisiana Lottery accumulated, national sentiment turned overwhelmingly against it, and it was finally closed down in 1895 by a federal law prohibiting all interstate commerce in lotteries.¹³³ Thus, the only pre-twentieth century lottery with a payout rate designed to extract monopoly profits (at a rate remarkably similar to the average rate today) was eradicated by a national crusade ending in federal legislation, and created a climate so hostile to lotteries that nearly seven decades passed before another legal lottery appeared in the United States. For obvious reasons, proponents of today's lotteries prefer not to claim descent from the Louisiana Lottery, despite its being the only precedent for modern payout rates.

Whatever the correct explanation for the high historic payouts—apart from the Louisiana aberration—those payouts provide no support for the much lower payout rates (and higher implicit taxes) of today's lotteries. Pre-modern American lotteries were not government monopolies and they did not extract monopoly profits. The ascendancy of the profit-maximizing state monopoly lottery is a late-twentieth century phenomenon.

IV. OF EXPLANATIONS AND JUSTIFICATIONS

A. *The Significance of the Status Quo Ante*

There exists a plausible explanation as to why states have chosen lotteries, uniquely among all consumer products, for revenue maximization. The key is the nonexistence of a legal lottery industry in any state before the introduction of a state lottery. If a state were suddenly to propose to maximize tax revenue from espresso drinks, for example, it would face formidable political obstacles.¹³⁴ Such a tax

130. Anti-lottery forces had succeeded in eliminating all other lotteries in the country. EZELL, *supra* note 117, at 236–41.

131. CLOTFELTER & COOK, SELLING HOPE, *supra* note 3, at 38.

132. EZELL, *supra* note 117, at 242–44.

133. *Id.* at 242–70 (detailing the rise and fall of the Louisiana lottery); Act of March 2, 1895, ch. 191, 28 Stat. 963 (prohibiting all interstate commerce in lotteries).

134. There would not be any significant danger that a revenue-maximizing tax would be considered itself a taking subject to the Constitution's just compensation requirement.

would eliminate much of the existing consumer surplus of latte drinkers and much of the profits of the latte industry, and so would be strenuously resisted by both consumers and producers.¹³⁵ With a lottery, however, the status quo ante is very different. Even a revenue-maximizing lottery creates consumer surplus, if the comparison is with no lottery at all (rather than with a less heavily-taxed lottery).¹³⁶ On the producer side, the introduction of a lottery involves no existing (and legal) industry to complain that its profits are being unfairly reduced.

A political opportunity for revenue maximization is not, of course, the same thing as a principled justification. Yet the absence of an existing lottery industry might help to justify a revenue-maximizing lottery. Suppose a particular product (latte, lottery ticket, or anything else) would cost the consumer \$1 per unit if the product were taxed at rates comparable to those for other products, but would cost \$1.50 if the product were subject to a special revenue-maximizing tax. In choosing between the two levels of taxation, it appears that what is at stake—fifty cents more or less of consumer surplus per unit—is independent of the state of affairs at the time the decision is made. But this does not take into account the endowment effect—the name given by economists to the phenomenon that people commonly demand much more to sell items they own than they would be willing to pay to buy those same items.¹³⁷ A corollary is that “[f]orgone gains

In *A. Magnano Co. v. Hamilton*, 292 U.S. 40 (1934), the Supreme Court sustained a prohibitively high state tax on butter substitutes against the appellant's objection that the tax constituted an uncompensated taking of property, in violation of the Due Process clause of the Fourteenth Amendment. *Id.* at 47. The Court declared that “the single premise that the amount of the tax is so excessive that it will bring about the destruction of appellant's business . . . furnish[es] no juridical ground for striking down a taxing act.” *Id.* Unlike the tax in *Magnano*, a revenue-maximizing tax on a consumer product would not make the product so expensive as to drive the producers out of business (at least not all of them); a fortiori, then, a revenue-maximizing tax is not subject to the compensation requirement.

135. The alternative route to revenue-maximization—direct state ownership of all latte shops following condemnation of the existing industry—would encounter similarly strenuous resistance from consumers and producers. It would also trigger the need to pay just compensation to the owners of the condemned business. See U.S. CONST. amend. XIV; *Chicago, Burlington & Quincy R.R. Co. v. Chicago*, 166 U.S. 226, 226 (1897) (incorporating the compensation clause of the Fifth Amendment into the Fourteenth Amendment).

136. See CLOTFELTER & COOK, *SELLING HOPE*, *supra* note 3, at 219–21. Consumer surplus is the excess of the maximum amount a person would be willing to pay for a particular product, over the amount he actually has to pay. *Id.* at 220. Obviously, there is no consumer surplus from lotteries if there are no lotteries, but there is some consumer surplus from even a revenue-maximizing lottery.

137. See, e.g., RICHARD W. THALER, *THE WINNER'S CURSE: PARADOXES AND*

are less painful than perceived losses.”¹³⁸ A revenue-maximizing price of \$1.50 costs both the latte drinker and the lottery player fifty cents of consumer surplus, compared to the alternative of a tax at the lower level. The cost would be more painful for the latte drinker, however, because of the difference in starting points. Starting from an existing price of \$1, the latte drinker perceives the new tax burden as a loss. Starting from the non-existence of the product, the lottery player perceives the difference between the actual \$1.50 price and the alternative \$1 price as merely a foregone gain (if she thinks about it at all). It simply causes less pain to deprive the gambler of fifty cents of consumer surplus he has never enjoyed than to deprive the latte drinker of fifty cents of surplus she has come to view as her endowment.

Although the endowment effect is largely a consumer phenomenon,¹³⁹ it may also be less troubling from a producer perspective to impose a revenue-maximizing tax on a previously illegal industry than on an existing one. Owners of capital may suffer more from a loss of profits to which they have become accustomed (as when the latte tax is increased), than from the inability to realize profits they have never enjoyed in the past (as when they are not allowed to enter the lottery business).

There are arguments, then, from both consumer and producer perspectives that the absence of a legal lottery industry before the introduction of a state lottery provides a principled justification for the unique status of the revenue-maximizing lottery; other things being equal, heavy taxation of a previously non-existent product will cause less consumer pain than equally heavy taxation of an established product. The remainder of this Part considers possible objections to this proposed justification. The first possible objection is that the situation which is claimed to justify revenue-maximization—the previous (legal) non-existence of the product—is not really unique to lotteries. Arguably the same situation exists in the case of any currently illegal product, and in the case of any new product. In particular, the same situation may have existed upon the repeal of Prohibition and upon the introduction of vanity license plates. The second objection relates to the bootstrap nature of the justification. The only reason there was no legal lottery industry

ANOMALIES OF ECONOMIC LIFE 63–78 (1992) (discussing the endowment effect and the related concepts of loss aversion and the status quo bias).

138. *Id.* at 74–75.

139. “Loss aversion does not affect all transactions. In a normal commercial transaction, the seller does not suffer a loss when trading a good.” *Id.* at 72 n.3.

before the introduction of state lotteries was that the states had prohibited private lotteries. Arguably a state should not be able to bootstrap its way into a revenue-maximizing lottery by artificially creating a no-lottery status quo ante. Finally, and most significantly, there is the compelling objection that the previous non-existence of lotteries, although not irrelevant to a utilitarian analysis, is simply not significant enough to do all the heavy lifting it is being asked to do; the endowment effect is a factor favoring relatively heavy taxation of lotteries, other things being equal, but it does not justify revenue maximization.

B. Is the Lottery Situation Really Unique?

1. Other Illegal Products and the Repeal of Prohibition

In theory, any illegal product presents a state with the same opportunity as the lottery to enter the field as a profit-maximizing monopolist without interfering with the endowments of consumers or existing producers. The usual problem, of course, is public opposition to legal—let alone state-sponsored—cocaine or prostitution, regardless of how attractive the revenue potential may be. Public disapproval of lotteries emptied the field in the late-nineteenth century.¹⁴⁰ When a change in public attitudes made lotteries acceptable seven decades later,¹⁴¹ states were free to enter and maximize revenue without opposition from existing consumers or producers. Such a change from strong disapproval to acceptance may be a politically necessary condition for a state's ability to maximize revenue from a particular product;¹⁴² states do not attempt to maximize revenue from other consumer products because the necessary condition so rarely occurs.

A partial explanation for the shift in attitudes toward lotteries may be that much of the opposition to lotteries was merely practical, rather than fundamental. Although the very idea of a lottery was morally condemned by many during the long decades of lottery prohibition, others believed that a lottery would be acceptable, if only it was possible to run one without fraud and corruption. Once New

140. See *supra* text accompanying notes 130–33 (describing briefly the demise of the infamous Louisiana Lottery).

141. The first twentieth-century state lottery was New Hampshire's in 1964. See CLOTFELTER & COOK, *SELLING HOPE*, *supra* note 3, at 141–43. Lottery adoptions by other states followed gradually over the decades. See *id.* at 143–59.

142. The invention of a new product by the state, such as vanity plates, may also be sufficient.

Hampshire—desperate to avoid both a sales tax and an income tax¹⁴³—broke the taboo and demonstrated the practicality of a profitable and scandal-free lottery, the merely practical case for prohibition disappeared.¹⁴⁴ In the case of most other illegal products the prohibition is overwhelmingly based on fundamental objections to the product itself, rather than to corruption in the industry; the necessary change in attitudes is less likely to occur when the objections are fundamental.

There is, of course, one other important instance in American history when an attitude shift, resulting in the legalization of a major product, did occur—the repeal of Prohibition by the Twenty-first Amendment in 1933.¹⁴⁵ States and the federal government today do *not* attempt to maximize revenue from alcohol, either through excise taxation or through the direct operation of liquor stores.¹⁴⁶ In the aftermath of the repeal of prohibition, however, revenue-maximizing alcohol taxes were at least accorded a significant amount of legislative lip service. The Ways and Means Committee Report accompanying the Liquor Taxing Act of 1934¹⁴⁷ claimed that the tax rates on distilled spirits and beer were intended “to return the maximum amount of revenue without incurring the danger of perpetuating illegal liquor traffic by excessive rates.”¹⁴⁸ On the other hand, the Report noted that the “relatively low rates” on various types of wine would be “advantageous to the fruit growers of the country.”¹⁴⁹

In light of later developments, it is difficult to take seriously the claimed intent to maximize tax revenue from spirits and beer. By 1938 bootlegging had been brought under control and the distilling industry had been firmly reestablished, so liquor taxes could then be set at revenue-maximizing levels, without the concern for the relative prices of legal and illegal alcohol.¹⁵⁰ Yet Congress responded by raising the distilled spirits tax only slightly (from \$2.00 to \$2.25 per proof gallon), and the beer tax not at all.¹⁵¹ The Ways and Means Report contains no indication that the new rate on spirits was

143. CLOTFELTER & COOK, *SELLING HOPE*, *supra* note 3, at 141–43.

144. *See id.* at 150–51.

145. U.S. CONST. amend. XXI.

146. *See supra* text accompanying notes 25–43.

147. Liquor Taxing Act of 1934, Pub. L. No. 73-83, 48 Stat. 313.

148. H.R. REP. NO. 73-271, at 1 (1934) (Sup. Docs. No. Y 1.1/2:Serial 9774).

149. *Id.* at 2.

150. *See* TUN YUAN HU, *THE LIQUOR TAX IN THE UNITED STATES, 1791–1947*, at 108 (1950).

151. *See* Revenue Act of 1938, Pub. L. No. 75-554, § 710, 52 Stat. 447, 572 (increasing the distilled spirits tax).

intended to maximize revenue,¹⁵² and such an intent seems very unlikely in light of an earlier Treasury Report indicating that a \$5 rate would raise \$122 million more annual revenue than a \$2 rate.¹⁵³

Additional evidence that the 1938 rates were not intended to maximize revenue comes from the congressional response to the fiscal crisis created by World War II. Congress repeatedly increased alcohol excise taxes during the war, for the purpose (and with the effect) of raising revenue. In light of the wartime tax increases, it is highly unlikely that Congress believed the 1938 tax rates were revenue-maximizing.¹⁵⁴

Therefore, despite the reference to “the maximum amount of revenue” in the legislative history of the 1934 Act, a serious attempt at revenue maximization did *not* follow the repeal of Prohibition. There is, however, a plausible explanation, in endowment effect terms, of why revenue-maximization followed the legalization of

152. In fact, it offers no discussion whatsoever of the rationale for the increase. H.R. REP. NO. 75-1860, at 63–67 (1938) (Sup. Docs. No. Y 1.1/2:Serial 10233) (where one would expect to find a discussion, were there a discussion).

153. *Tax on Intoxicating Liquor—Joint Hearings before the Committee on Ways and Means, House of Representatives, and the Committee on Finance, U.S. Senate*, 73d Cong. 313–15 (1933) (Sup. Docs. No. Y4. W36:L66/5).

154. In 1940 Congress raised the distilled spirits tax from \$2.25 to \$3 per proof gallon, and raised the beer tax from \$5 to \$6 per barrel. Revenue Act of 1940, Pub. L. No. 76-665, § 213-14, 54 Stat. 513, 524–25 (affecting spirits and beer respectively). The official revenue estimates were an increase of \$76 million (in the first year) from the spirits tax, and an increase of \$46 million from the beer tax. H.R. REP. NO. 76-2491, at 3 (1940) (Sup. Docs. No. Y 1.1/2:Serial 10443). The next year Congress increased the spirits tax to \$4, for an estimated revenue increase of \$122.3 million. Revenue Act of 1941, Pub. L. No. 77-250, § 533, 55 Stat. 689, 708; H.R. REP. NO. 77-1040, at 3 (1941) (Sup. Docs. No. Y 1.1/2:Serial 10556). The year after that, Congress increased the spirits tax again—this time to \$6 per proof gallon—and increased the beer tax to \$7 a barrel. Revenue Act of 1942, Pub. L. No. 77-753, § 602-03, 56 Stat. 798, 970–71 (affecting spirits and beer respectively). The estimated revenue increases were \$266.1 million for the spirits tax and \$61.8 million for the beer tax. H.R. REP. NO. 77-2333, at 3 (1942) (Sup. Docs. No. Y 1.1/2:Serial 10556). Finally, the Revenue Act of 1943 increased the spirits tax to \$9 and the beer tax to \$8, with estimated revenue increases of \$370 million for spirits and \$70 million for beer. Revenue Act of 1943, Pub. L. No. 78-235, § 302, 58 Stat. 21, 61 (1944); H.R. REP. NO. 78-871, at 9 (1943) (Sup. Docs. No. Y 1.1/2:Serial 10764). Although it is the revenue estimates, rather than actual results, that indicate the intent of Congress, the tax increases had the desired effect of greatly increasing revenues. Federal revenue from the excise tax on distilled spirits increased from about \$296 million in 1939 to nearly \$1.9 billion in 1946. HU, *supra* note 150, at 111.

It may be that Congress believed that the alcohol tax rates in effect by the *end* of the Second World War were at or close to the revenue-maximizing level. Even supposing that to have been the case, in the post-war decades Congress permitted inflation to erode the taxes to levels far below revenue maximization. See H.R. REP. NO. 101-881, at 279–80 (1990) *reprinted in* 1990 U.S.C.C.A.N. 2017, 2281-82 (Sup. Docs. No. Y 1.1/8:101-881) (describing the erosion of the alcohol excise taxes from the 1950s to the 1990s).

lotteries but did not follow the legalization of alcohol. The crucial difference is in the duration of the two prohibitions—just fourteen years for alcohol,¹⁵⁵ compared with the better part of a century for lotteries. Fourteen years were simply not long enough to establish the unavailability of alcohol as the endowment effect baseline. Drinkers could remember the price of legal alcohol fourteen years before, and they would consider their endowment to be availability at that price, rather than the short-lived legal unavailability at any price. No state lottery player, by contrast, had any memory of being able to play a legal lottery at any price; unavailability was clearly the lottery endowment baseline. The same analysis applies, of course, on the producer side. There was no legal lottery industry in existence at the introduction of state lotteries, but upon the repeal of Prohibition, brewers and distillers still existed to object to revenue-maximizing taxes (or to a state takeover of their facilities).¹⁵⁶

The brevity of the Prohibition era thus plausibly distinguishes revenue-maximizing lotteries from the failure to impose revenue-maximizing alcohol taxes in the 1930s. After only fourteen years of Prohibition, it was unclear whether Prohibition or the pre-Prohibition era should be taken as the baseline for purposes of applying endowment effect analysis to alcohol consumers. Similarly, the loss to producers from revenue-maximizing taxes would fall on the still-existing brewers and distillers, who may have viewed as their endowment the right to sell alcohol subject to pre-Prohibition levels of tax.

2. New Products

The endowment effect on consumer analysis is the same for newly-developed products as it is for previously illegal products. If consumers will find a revenue-maximizing lottery tax bearable because they have never experienced a more lightly taxed lottery,

155. Prohibition was established by the Eighteenth Amendment in 1919 and repealed by the Twenty-first in 1933. U.S. CONST. amend. XVIII, *repealed by* U.S. CONST. amend. XXI.

156. "Some alcoholic-beverage manufacturing and distribution firms . . . pursued different activities [during Prohibition] such as making yeast or industrial alcohol or just waited for their plants to become useful again. They clearly still had plenty of money, for they spent a great deal on repeal efforts." JOHN C. BURNHAM, *BAD HABITS: DRINKING, SMOKING, TAKING DRUGS, GAMBLING, SEXUAL BEHAVIOR, AND SWEARING IN AMERICAN HISTORY* 28-29 (1993). Some breweries survived by manufacturing legal "near beer" through a process which involved first manufacturing real beer. STANLEY BARON, *BREWED IN AMERICA: A HISTORY OF BEER AND ALE IN THE UNITED STATES* 313-14 (1962); SEAN DENNIS CASHMAN, *PROHIBITION: THE LIE OF THE LAND* 40 (1981).

then they should find a revenue-maximizing tax on (for example) high-definition television (HDTV) equally bearable. Under this objection, the consumer endowment effect justification for lottery taxation fails because states and the federal government do not attempt to impose revenue-maximizing taxes on newly-developed products.

The problem with this objection is that it addresses only the consumer side of the endowment effect. From the producer perspective, a revenue-maximizing tax on HDTV would not deprive producers of profits to which they have become accustomed, but it would deprive them of *expected* future profits, and that expectation alone may have been enough to create an endowment effect. There would be no such expectation, of course, if it were established government policy to impose revenue-maximizing taxes on all new products. Such a general policy would avoid the endowment effect problem, but only at the cost of severely discouraging new product research and development.

3. Vanity Plates

The argument for a revenue-maximizing lottery based on the previous non-existence of the product would have been equally applicable to a revenue-maximizing vanity plate auction, but only at the time states first offered vanity plates. Never having been able to buy vanity plates more cheaply, consumers would not have been subject to the endowment effect. And given the absence of an existing private vanity plate industry, a vanity plate auction would have done little harm from the producer perspective.¹⁵⁷

In fact, for reasons not relating to the status quo ante, a vanity plate auction seems much *easier* to justify than a revenue-maximizing lottery. In contrast to the highly regressive effect of the lottery tax, a vanity plate auction would almost certainly be strongly progressive. The Hong Kong example suggests that some affluent persons would be willing to pay five-, six-, and even seven-figure amounts for especially desirable plates.¹⁵⁸ In addition, a vanity plate auction does not raise the same concerns as a revenue lottery about exploitation of addicts or about the state's profiting from behavior many believe to

157. The introduction of vanity plates may have done some harm to the existing bumper sticker industry. Of course, a revenue-maximizing auction would not have depressed demand for bumper stickers as much as the actual practice of selling vanity plates at one (relatively low) price.

158. See discussion of the Hong Kong experience with vanity plate auctions, *supra* text accompanying notes 77–79.

be immoral.¹⁵⁹ The more frivolous nature of vanity plates also makes it easier to justify revenue maximization. It is very easy to respond “just say no” to the person unhappy about the high price of his desired vanity plates. After all, he can express the exact same message, in nearly the same place, with a bumper sticker (or even on an unofficial front license plate in some states), albeit without the cooperation of the state. But a poor lottery player faced with a revenue-maximizing lottery tax may have no other way to pursue a dream of affluence; even if he has access to other forms of legal gambling, those other forms offer much smaller potential winnings.

It would be inconsistent for a state to attempt to justify a revenue-maximizing lottery based on the previous non-existence of lotteries, if the state declined to adopt a revenue-maximizing vanity plate auction under analogous circumstances. To have decided against the auction approach, however, a state must have been aware of the possibility of an auction. It seems likely that states originally failed to auction vanity plates because of a failure of imagination, or because of the logistical difficulties in the pre-internet era.¹⁶⁰ If that is correct, then the states did not really *decline* to auction vanity plates; they simply never considered auctions an option. Absent state consideration of the option, the original failure to auction vanity plates cannot be considered an adverse precedent to the revenue-maximizing lottery.

With the example of Hong Kong and the resources of the internet, states are *now* aware (or at least they should be) of the auction possibility. But decades of selling vanity plates at low prices have created an endowment effect, so that a change to auctions now would be painful to consumers in a way that the original adoption of an auction approach would not have been.¹⁶¹ In short, the original

159. In fact, states commonly decline to profit from disapproved vanity plate behavior, by refusing to issue plates with vulgar or obscene messages. See, e.g., *Kahn v. Dep't of Motor Vehicles*, 20 Cal. Rptr. 2d 6, 12–13 (Cal. Ct. App. 1993) (upholding the state's refusal to issue a vanity license plate with a stenographic shorthand for a common four letter obscenity); *Katz v. Dep't of Motor Vehicles*, 108 Cal. Rptr. 424, 424 (Cal. Ct. App. 1973) (upholding the state's refusal to issue a plate reading “EZLAY,” but noting that the plaintiff was free to put the same message on the *frame* of his license plate); *McMahon v. Iowa Dep't of Transp.*, 522 N.W.2d 51, 57 (Iowa 1994) (upholding, against a constitutional challenge, the state's refusal to issue a vanity plate which would read as “EATME” in a mirror). But see *Carr v. Dir. of Revenue*, 799 S.W.2d 124, 126 (Mo. Ct. App. 1990) (ordering state to issue requested license reading “ARYAN-1,” because of lack of statutory authority to refuse to issue license plates with inflammatory words).

160. See *supra* text accompanying notes 73–76.

161. This is not to say that, on balance, it would be a bad idea for states to begin auctioning vanity plates. It is harder, however, to justify a switch to auctions now than it

failure to auction vanity plates is distinguishable from the lottery situation because states were not originally aware of the option of auctioning vanity plates, and the failure to switch to auctions now is distinguishable on the grounds that an endowment effect has developed following many years of low-priced sales.

C. The Bootstrap Problem

The bootstrap nature of the endowment effect justification for revenue-maximizing lotteries is troubling. By prohibiting lotteries for many decades, states artificially created the conditions under which revenue-maximizing lotteries could be introduced without either consumers or producers suffering any loss of endowment. A state invoking the previous *state-created* illegality of lotteries as the justification for revenue-maximization calls to mind the parricide who threw himself on the mercy of the court as an orphan. This unclean hands objection would not apply if the previous absence of lotteries had been unrelated to state action; it has intuitive appeal, however, when such previous absence is the result of state prohibition.

On reflection, however, the bootstrap objection has little force as long as the state did not cynically prohibit lotteries for the purpose of making it possible to introduce a revenue-maximizing lottery many decades later. It seems safe to assume that nineteenth century lottery prohibitions were based on nineteenth century concerns about morality, fraud, and corruption, rather than on far-sighted solicitude for state coffers almost a century later; if that assumption is correct, the bootstrap objection fails.

D. Can the Endowment Effect Bear the Entire Burden of Justification?

Even accepting that lotteries were uniquely well-suited for revenue-maximization from an endowment effect perspective, and even putting aside the bootstrap objection, there remains the question of how much weight reasonably can be placed on this justification.

The endowment effect justification appeals, of course, to utilitarian norms. The point is that a tax imposes a smaller loss of utility, all else being equal, when there is no endowment effect. Ideally this consideration would be incorporated as one factor in a utilitarian analysis of the optimal tax rates on different consumer products. The endowment effect would be a factor favoring a

would have been to justify auctions from the beginning.

relatively high rate of tax on lotteries. The utilitarian analysis would also consider, however, the demand elasticities for different products and the distributional effects (by income or by wealth) of taxes on different products.¹⁶² A low elasticity of demand points toward a high rate of tax (because deadweight loss will be small), as does the fact that a particular product is consumed primarily by the affluent (because of the declining marginal utility of money, the affluent will suffer a relatively small loss of utility from a high tax burden). Although consideration of the endowment effect suggests a high tax on lotteries, the elasticity factor may point toward a higher tax on other products with lower elasticities of demand, and the distributional factor points strongly *against* a high tax on lotteries (since levels of lottery play are inversely related to levels of income).¹⁶³

The historical conditions surrounding the introduction of state lotteries may well have been unique from an endowment effect perspective, but the uniqueness of this single factor does not justify a uniquely aggressive revenue policy for lotteries. The endowment effect analysis suggests that there is a utilitarian argument for taxing a lottery more heavily than another product with the same elasticity of demand and the same distribution of consumption by income levels. It does not suggest, however, that lotteries should always be taxed more heavily than other products even when other things are not equal, and it certainly does not suggest that social welfare will be maximized by raising as much tax revenue as possible from lotteries. In short, the endowment effect is just one factor in a comprehensive utilitarian analysis of optimal tax rates on consumer products, and there is no reason to think that incorporating the endowment effect into such an analysis would result in a directive to operate a revenue-maximizing lottery.

CONCLUSION

No apparent justification exists for states to extract every possible dollar of revenue from lottery consumers when they make no attempt to do the same from consumers of any other product. In the absence of a justification, states should abandon lotteries as we know

162. See Clotfelter & Cook, *Implicit Taxation*, *supra* note 84, at 541-43. The authors explain that the standard analysis for determining the optimal allocation of tax burdens among different products takes into account the relative elasticities of demand of the products, and the patterns of consumption of the products over the income distribution. See *id.* The standard analysis does not incorporate endowment effect considerations.

163. See Clotfelter, *Turn of the Century*, *supra* note 2, at 17-18, 36 *tbl.* 11.

them.¹⁶⁴ That does not mean that states should necessarily surrender their lottery monopolies. Despite concerns about problem gamblers, the existence of a lottery may well enhance consumer welfare; millions of enthusiastic participants certainly seem to think so. And a state monopoly may be a reasonable response to concerns about fraud and corruption, and to economies of scale. It does not follow, however, that the states should therefore extract monopoly profits, any more than a municipal water company should do so.

In their classic study of lotteries, Cook and Clotfelter suggest two lottery models as alternatives to revenue maximization. A consumer lottery would be run to maximize consumer welfare, not government profits.¹⁶⁵ At the extreme, this would mean no implicit tax,¹⁶⁶ but a tax consistent with the excise taxes on other products would be reasonable.¹⁶⁷ By contrast, a sumptuary lottery would be based on paternalistic state disapproval of gambling, coupled with a belief that prohibition simply does not work.¹⁶⁸ Existing demand would be accommodated, but there would be no attempt at promotion. This is the analogue of the state liquor store. Although the implicit tax rate would be high (to discourage consumption), the absence of any marketing would keep revenues far below profit-maximizing levels.

Depending on attitudes toward gambling within a state, either a consumer lottery or a sumptuary lottery is a defensible choice.¹⁶⁹

164. One can imagine a situation in which a legislator could justifiably support a revenue-maximizing lottery under severe political constraints. The legislator might believe that the only politically feasible way to fund a desperately needed new program is with a revenue-maximizing lottery, and that the net result of the new revenue source and spending program will be an improvement in the public welfare compared to the status quo ante. Under those constraints, the legislator could be justified in supporting a revenue-maximizing lottery. What would not be justified, however, is the behavior of those political actors who imposed the constraints, which ruled out other sources of funding for the desperately needed program (including both other taxes and decreases in other spending programs).

165. See CLOTFELTER & COOK, *SELLING HOPE*, *supra* note 3, at 242–43.

166. This possibility is suggested by McCaffery, *supra* note 109, at 119 (arguing that because poor persons play lotteries out of need, any tax on lotteries is of doubtful fairness).

167. See CLOTFELTER & COOK, *SELLING HOPE*, *supra* note 3, at 247.

168. See *id.* at 242–43.

169. The public has not rejected either the consumer lottery or the sumptuary lottery, because neither model has been seriously presented for public consideration. The political success of revenue-maximizing lottery proponents in most states may owe as much to their ability to set the political agenda as it does to the actual condition of public opinion. Suppose the lottery question is to be decided by popular vote, and the voting public is divided into three groups of equal size—the revenue maximizers (RM), the consumer advocates (CA), and the moralists (MO). If they were presented with three options—a revenue-maximizing lottery (RML), a consumer lottery (CL), or no lottery (NL), their

What is not defensible is the dominant model today, the revenue-maximizing lottery.

preference orderings would be as follows (the fourth possibility, a sumptuary lottery, is excluded for ease of illustration):

Voting Group	Preference Ordering
RM	RML—CL—NL
CA	CL—RML—NL
MO	NL—CL—RML

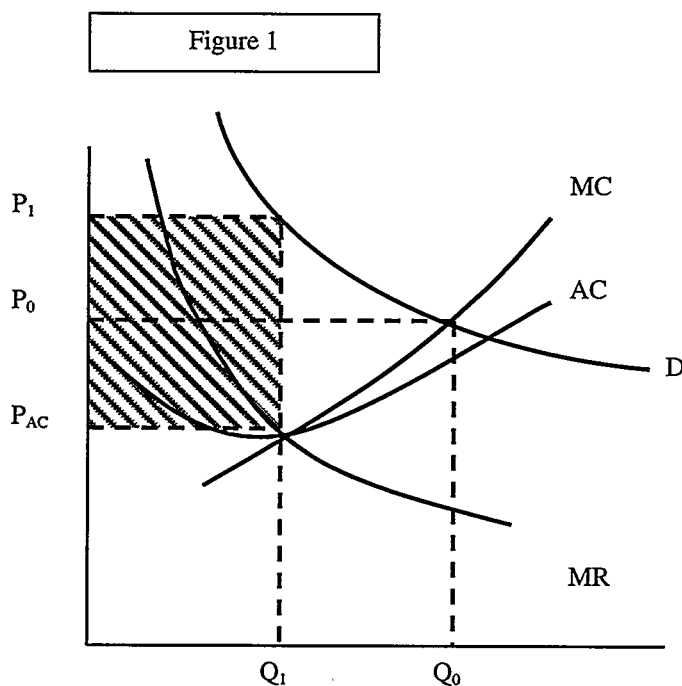
The consumer advocates prefer RML to NL because even a revenue-maximizing lottery creates consumer surplus compared to no lottery; the moralists prefer CL to RML because it results in less ill-gotten gain to the state.

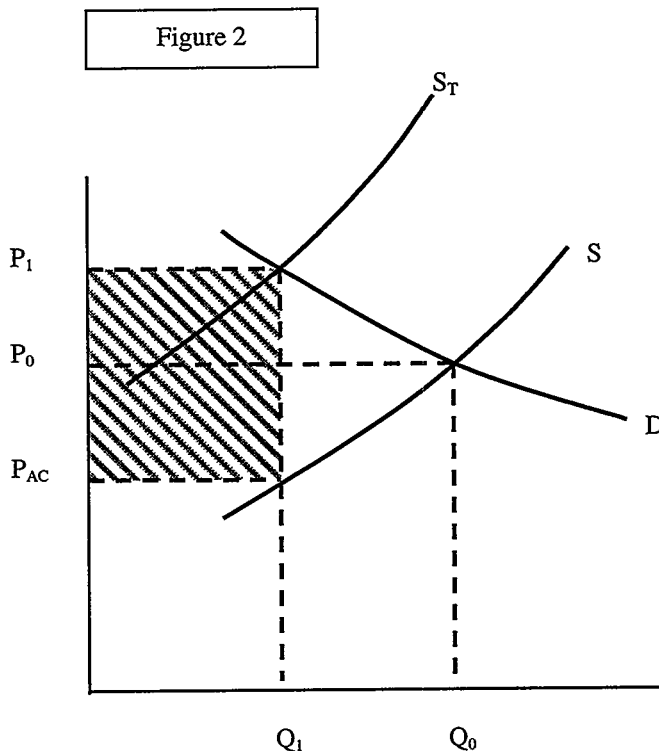
Assuming each group votes in accordance with its preference ordering, RML will win over NL by a two-to-one vote, *if* the voters are presented with only the RML and NL options. If consumer advocates were in control of the agenda, however, they could present voters with a choice between CL and NL, and CL would also win over NL by a two-to-one vote. They could also present voters with a choice between CL and RML, which CL would also win by a two-to-one vote. Thus, the fact that voters generally prefer a revenue lottery to no lottery does not necessarily mean voters would still select a revenue lottery if consumer lottery proponents were in control of the agenda. On the importance of agenda-setting power in situations involving more than two options, see JERRY L. MASHAW, GREED, CHAOS, AND GOVERNANCE: USING PUBLIC CHOICE TO IMPROVE PUBLIC LAW 12-15 (1997).

APPENDIX

Approximating Monopoly Profits with an Excise Tax

Figure 1 illustrates the situation of a state which has given itself a monopoly over a particular product. Unlike a firm in a competitive industry, which faces a horizontal demand curve, as a monopolist the state faces a downward-sloping demand curve. The state's marginal cost is represented by MC, average cost by AC, demand by D, and marginal revenue by MR. The figure represents the special case where MC, AC, and MR intersect at a single point. In a competitive industry, a firm's marginal cost curve would also be its supply curve; thus the firm would sell quantity Q_0 at price P_0 . As a monopolist, however, the state will maximize its profit by setting its output at the point where marginal revenue equals marginal cost. Thus it will sell quantity Q_1 at price P_1 . The state's monopoly profit is the difference between the unit price (P_1) and the average cost (P_{AC}), multiplied by the number of units sold. It is represented by the shaded rectangle in Figure 1.





Now suppose that instead of monopolizing an industry, the state leaves the industry in the hands of a number of competitive firms, but decides to impose a revenue-maximizing excise tax on the product. This situation is illustrated by Figure 2. The industry supply curve (in the absence of the excise tax) is represented by S , which is the sum of the marginal cost curves of all the firms in the industry. By hypothesis, it is identical to MC in Figure 1. Also by hypothesis, the demand curves (D) in the two figures are also identical. Absent an excise tax, the industry will produce at the intersection of the supply and demand curves, resulting in quantity Q_0 being sold at price P_0 —the same result as if there had been competition in Figure 1.

What happens if the state imposes an excise tax in the amount of $P_1 - P_{AC}$ per unit? The tax functions as an addition to the marginal cost of the production of all firms, so the supply curve (the sum of marginal cost curves) simply shifts upward by the amount of the tax. The new curve is represented by S_T . The intersection of supply and demand is now at quantity Q_1 and price P_1 . The state's tax revenue is

the per unit tax of $P_1 - P_{AC}$, multiplied by the Q_1 units sold, and is represented by the shaded area in Figure 2. This is the same as the state's monopoly profits in Figure 1.

The results are this tidy only in the special case where MC, AC, and MR intersect at a single point. If average cost is *below* marginal cost at the intersection of marginal cost and marginal revenue, then imposing an excise tax equal to the monopolist's per unit profit will result in a lower quantity sold than the quantity sold by the monopolist. Thus the excise tax revenue would be somewhat less than the monopoly profits.¹⁷⁰ Conversely, if average cost is *above* marginal cost at the intersection of marginal cost and marginal revenue, then an excise tax equal to the monopolist's per unit profit would actually result, in the short run, in a higher quantity sold than the quantity sold by the monopolist. This could not be sustained in the long run, however, because it would put the industry in a position where average cost exceeded price.

170. It would not necessarily follow that the state would make more money by taking over the industry than by imposing the revenue-maximizing excise tax because taking over the industry would require the payment of compensation under the Fourteenth Amendment, whereas an excise tax would not.

