

CIGARETTE TAXES: SIN TAXES OR SINFUL TAXES?

Mingyang Liu (Kobe)

INTRODUCTION

Raising cigarette taxes has been remarkably popular among lawmakers. Smoking has been traditionally viewed as sinful and the number of smokers has been shrinking.¹ Legislators regard cigarette tax increases as a low political cost tool to raise revenues and deter smoking. Since the beginning of this millennium, more than 40 states have passed over 78 separate state cigarette tax increases.² As a result, total cigarette tax revenue reached \$32 billion in 2010.³ In addition to raising revenues, another rationale behind cigarette tax increases is to control tobacco consumption. Legislators and public health advocates hope high taxes will get people to cut back or quit smoking completely, which will directly improve smokers' health and benefit non-smokers indirectly.⁴ Finally, cost-recovery theory also plays a role in posing new taxes. Supports of new cigarette taxes justify them as a method to recover external costs imposed on society by smoking.⁵

Those rationales sound appealing, they face serious challenges, however. First, the efficiency of using cigarette taxes for tobacco consumption has been called into question. Smoking decline rates have slowed during the past five years, from 20.9% in 2005 to 19.3% in 2010, despite cigarette prices increase.⁶ Second, cost-recovery theory may also be flawed

¹ See Laura Dwyer-Lindgren et al., *Cigarette Smoking Prevalence in US Counties: 1996-2012*, Population Health Metrics, <http://www.pophealthmetrics.com/content/12/1/5> (last updated March 24, 2014).

² See Gregory Colman & Dahlia Remler, *Vertical Equity Consequences of Very High Cigarette Tax Increases: If the Poor Are the Ones Smoking, How could Cigarette Tax Increases Be Progressive?*, No. 2, 27 J. POL'Y ANALYSIS & MGMT., 376, 376-400, Spring 2008, available at <http://www.jstor.org/stable/30162849>.

³ Gary Lucas, Jr., *Saving Smokers From Themselves: the Paternalistic Use of Cigarette Taxes*, 80 U. CIN. L. REV. 693, 693 (2011-2012).

⁴ See Coleman & Remler, *supra* note 2, at 2.

⁵ Babak Rastgoufard, *Too Much Smoke and Not Enough Mirrors: The Case Against Cigarette Excise Taxes and For Gasoline Taxes*, No. 2, 36 URB. L., 411, 424 (2004).

⁶ See *Current Cigarette Smoking Prevalence Among Working Adults – United States, 2004-2010*, No. 38, 60 CDC 1305, 1305 (2011) (discussing the smoking prevalence from 2005 to 2010)

because evidence suggests existing taxes already cover external costs of smoking.⁷ Third, states' dependence on revenue raised by cigarette taxes makes their commitment to combatting smoking seems weak.⁸

Cigarette taxes, moreover, are regressive in nature because smokers are disproportionately poor.⁹ Studies have concluded that smoking is increasingly a habit of the poor and working class,¹⁰ thus any cigarette tax increase would exacerbate the existing regressivity. Moreover, the incidence of tobacco taxation is over-shifted to consumers. They pay the entire amount of a tax as well as a premium of 8-17 percent of the amount of the tax, exacerbating regressivity even more.¹¹

Upon investigating the rationales behind cigarette taxes increase, arguments against higher tax rates, and the disproportional detrimental impacts of cigarette taxes increase imposed on the poor, this paper concludes that raising cigarette tax is inefficient to deter smoking and that high cigarette tax is unfair to low-income smokers. This paper is divided into two main parts. Section I examines the arguments supporting and opposing new cigarette taxes. Subsections include subsection I, the history of cigarette tax; subsection II, the rationales of cigarette taxes and supporting arguments for taxes increase; subsection III, arguments against raising taxes. Section II zooms in to investigate the regressivity of cigarette taxes. Subsections include subsection I, the regressivity of cigarette taxes and whether higher taxes rates make them less regressive; subsection II, methods in reducing the regressivity and feasibly alternatives to promote public health.

⁷ See Kenneth Warner et al., *Criteria for Determining an Optimal Cigarette Tax: the Economist's Perspective*, No. 4, 4 TOBACCO CONTROL 4, 380, 380, Winter 1995, available at <http://www.jstor.org/stable/20747487>.

⁸ See Andrew Haile, *Sin Taxes: When the State Becomes the Sinner*, No. 2009-05, TEMPLE L.R., June 25, 2009, available at <http://ssrn.com/abstract=1425621>

⁹ See Lucas, *supra* note 3, at 694.

¹⁰ See *Current Cigarette Smoking Prevalence Among Adults – United States, 2011*, No. 44, 61 CDC 890 (2011) (discussing the current smoking prevalence among all adults)

¹¹ See Andrew Hanson & Ryan Sullivan, *The Incidence of Tobacco Taxation Evidence from Geographic Micro-Level Data*, No. 4, 62 NAT'L TAX J. 677, 695, Dec. 2009, available at <http://www.jstor.org/stable/41790642>.

I. ARGUMENTS SUPPORTING AND OPPOSING CIGARETTE TAXES INCREASE

Cigarette taxes have a relatively long history in the United States. In the past 100 years, many theories have developed supporting and opposing cigarette taxes. This section examines the history of cigarette taxes and the arguments for and against raising cigarette taxes, examination of which reveals the inefficiency of high cigarette tax to deter smoking and significant limitations of rationales behind new cigarette taxes.

A. History of Cigarette Taxes

The history behind tobacco tax policy reveals a constant tension between fiscal and sumptuary goals.¹² Legislators have long seen cigarette taxes as a reliable source of revenue for two major reasons. First, tobaccos were widely used and had significant inelasticity of demand. Second, lawmakers at the time felt that the sellers of such morally suspect products should give some of their profits back to the public.¹³

In the eighteenth and nineteenth centuries, tobacco was a respectable and fashionable commodity, and an important part of the Southern economy. Although it was known to be unhealthy, smoking was generally not considered a sin. Some moral and religious reformers protested tobacco use, arguing it was a rebellion against Puritan standards of civilized self-control. Driven by this sentiment, some states passed anti-smoking laws, which either prohibited tobacco use or restricted the advertising and public consumption of tobacco products in the late nineteenth and early twentieth centuries. During World War I, however, soldiers' needs of cigarettes for morale led to abatement of public disapproval of smoking and the state restrictions

¹² Jendi Reiter, *Citizens or Sinners? – The Economic and Political Inequity of “Sin Taxes” on Tobacco and Alcohol Products*, 29 COLUM. J.L. & SOC. PROBS. 443, 444 (1995-1996).

¹³ *Id.*

eased. The feminist movement in the 1920's played a role in weakening the laws that restricted women smoking in public.¹⁴

By contrast, federal tobacco tax policy was initially revenue driven.¹⁵ Federal excise taxes on tobacco were neither permanent nor widely used before the Civil War. They were typically imposed as short-term emergency measures. During the Civil War, the federal government realized excise taxes on many commodities, including tobacco, could become important sources of government revenue. Ironically, once the government began depending on this tax revenue, the reduction of tobacco consumption is harder to be highlighted as a primary tax policy goal.¹⁶ In the 1950's, the federal government faced a critical choice of implementing anti-smoking measurements for the public interest because the medical profession discovered the link between smoking and cancer, or keeping aiding the tobacco industry because the government was dependent on revenues raised from smokers. A paternalistic theory was later developed to “solve” the conflict. The government could promote anti-smoking measures to reduce the number of smokers and increase taxes to offset the loss of revenue from the shrinking smoking population.¹⁷

B. Arguments for Cigarette Taxes Increase

Supporters of higher cigarette taxes rate have come up with a number of rationales and justifications for imposing new cigarette taxes. Those rationales generally fit into three categories: (1) social control; (2) cost-recovery; and (3) revenue raising.

¹⁴ *Id.* at 445.

¹⁵ *Id.*

¹⁶ *id.* at 445-446.

¹⁷ *Id.*

1. SOCIAL CONTROL

Smoking is recognized as harmful to public health and cigarette consumption is viewed as an unhealthy habit, thus, ought to be discouraged. Those conceptions make cigarette a prime candidate for taxation. Proponents of cigarette taxation argue that cigarette taxes can be used to accomplish a number of social goals: discourage teens and adults from smoking, help smokers quit, and prevent cigarettes from being used as an entry into hard drugs.¹⁸ Some evidence, in fact, indicates that cigarette taxes advance some of these goals. Studies have shown that a ten percent price increase produces an approximate 3% to 5% decrease in the number of cigarettes smoked.¹⁹

Some scholars believes that the cigarette tax policy is an example of paternalism in practice, which can be defined as “interference with a person’s freedom of action out of a desire to protect that person’s welfare, interests, or values.”²⁰ Paternalists’ tax policy, in other words, is “the idea that the government should save smokers from themselves.”²¹ One argument supporting paternalism is that smoking is not a rational choice.²² This idea is supported by several studies about nicotine addiction. Nicotine, one of the major ingredients in a cigarette, “sustains tobacco addiction . . . by acting on nicotinic cholinergic receptors in the brain to trigger the release of dopamine and other neurotransmitters. Release of dopamine, glutamate, and GABA is particularly important in the development of nicotine dependence, and CRF may play a key role in withdrawal.”²³ Studies found that there were 45 million smokers in the U.S. in 2010,

¹⁸ See Rastgoufard, *supra* note 7, at 423.

¹⁹ *Id.*

²⁰ See Reiter, *supra* note 11, at 451.

²¹ See Lucas, *supra* note 3, at 694.

²² *Id.* at 694-695.

²³ See Neal Benowitz, *Nicotine Addiction*, No. 24, 362 N. ENGL. J. MED., 1, 6 (2010), available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2928221/>.

70% of which demonstrated their desire to quit smoking, yet only 3% quit successfully.²⁴ Based on those findings, some physicians and public health advocates come up with a theory that smokers are incapacitated by addiction, which is an idea that the nicotine addiction constitutes a “disease that effectively deprives the addict of free will.”²⁵ Another group of theorists recognize smoking as a choice but believes the choice is imperfect.²⁶

When smoking is an irrational or a not perfectly rational choice, as paternalists argue, the utility of that choice is reduced or even eliminated, thus the harm of that choice significantly outweighs the social utility. Government intervention is required to correct or restrict activities that bring more harm than the benefits for public interests.²⁷ This idea of governmental intervention is described by Ronald Dworkin as that “in a genuine political community each citizen has a responsibility for the well-being of other members and should therefore use his political power to reform those whose defective practices will ruin their lives.”²⁸ Paternalistic cigarette taxes would make smokers better off by giving them an additional incentive to quit, thus, smoking, as an overwhelming and increasingly minority activity, is taxed in order to be deterred.²⁹

2. COST RECOVERY

Tobacco is a harmful substance that imposes a heavy burden on society, namely increased health care costs and lost productivity. According to the Centers for Disease Control, each pack of cigarettes burdens society \$7.18 additional healthcare costs, adding up to over \$75

²⁴ *Id.* at 1.

²⁵ *See* Lucas, *supra* note 3, at 695.

²⁶ *Id.*

²⁷ *Id.* at 696.

²⁸ *See* Reiter, *supra* note 11, at 452.

²⁹ *See* Lucas, *supra* note 3, at 695.

billion additional healthcare costs related to smoking and \$81 billion in lost productivity. Therefore, cost recovery theory claims smokers ought to cover the costs they are imposing upon society through taxation because smoking is burdensome to society.³⁰

3. REVENUE RAISING

One of the most important rationales for raising a cigarette tax is to raise revenue. In 2006, the federal government collected over \$7.7 billion in revenue from tobacco taxes, while state governments in the aggregate collect an additional \$15.2 billion. Federal and state governments combined raised nearly \$23 billion in revenue.³¹ This figure jumps to \$32 billion in 2010.³² In the past several years, the use of higher cigarette taxes to raise revenue has become popular among states as many states faced budget crisis and must submit a balanced budget.³³

C. Arguments Opposing Cigarette Taxes Increase

All three rationales behind higher tobacco taxes sound appealing, but they face significant limitations. Various arguments against cigarette taxes present solid positions. They generally fit into five categories: (1) the flaw of paternalistic theory in cigarette tax case; (2) the lower financial burden on society by smoking than previous studies concluded; (3) the inefficiency of taxes increase to deter smoking; (4) the states' conflict of interests of raising revenue and reducing the number of smokers; and (5) the regressivity of cigarette taxes, which will be discussed in Section II.

³⁰ See Rastgoufard, *supra* note 5, at 424.

³¹ See Hanson & Sullivan, *supra* note 11, at 677.

³² See Lucas, *supra* note 3, at 693.

³³ See Rastgoufard, *supra* note 5, at 426.

1. FLAW OF PATERNALISTIC THEORY IN CIGARETTE TAX CASE

Paternalistic theory, along with similar alternative theories as incapacitation by addiction or imperfect rationality, are fundamental arguments supporting imposing new cigarette taxes. Those theories, however, have significant limitations. The first limitation is that smoking may be a rational choice. Nobel Prize-winning economist Gary Becker and Kevin Murphy conclude that a smoker might recognize smoking is addictive and harmful, but still choose to smoke anyway because he or she has rationally determined that smoking is worth the risk.³⁴ Several types of evidence support this theory. The first type is that smoking produces certain benefits like “reducing stress, depression, and anxiety, aiding in concentration and memory, preventing weight gain, and facilitating social interaction.”³⁵ The existence of benefits does not mean smokers ignore the associated risks, but it does suggest that smoking is not obviously irrational as paternalistic claimed.³⁶

The second type of supporting evidence is that people consider potential costs in deciding whether to quit or to continue smoking. The dangers of smoking are becoming common knowledge. Changes in the perceived risks of smoking contribute in the dramatic decline in the adult smoking rate, which fell from about 42% in 1965 to just under 21% in 2009, suggesting rational and forward looking-behavior.³⁷ The fact that so many people have quitted smoking to improve their health also suggests smokers accounted risks of smoking.³⁸ Other pieces of evidence such as smoking may have a lower subjective price for smokers than for nonsmokers

³⁴ See Lucas, *supra* note 3, at 699.

³⁵ *Id.*

³⁶ *Id.*

³⁷ *Id.* at 701.

³⁸ *Id.*

also suggests a rational decision-making process.³⁹ If smoking is a rational choice, paternalistic type theories certainly have no ground in supporting higher cigarette taxes rates.

Smoking is a rational choice is not universally accepted among behavior analysts. Some studies have suggested that smoking is irrational for some smokers. Although a large amount of people already quit smoking, the fact that many smokers often make several failed attempts to quit calls the rationality of smoking into question.⁴⁰ In 2010, the U.S. has 45 million smokers, 70% of which vow to quit, but only 3% quit successfully.⁴¹ Even we accept the standing that smoking is not a rational choice for some people, paternalistic theory still runs to a second limitation: government should not remove or greatly impair people's ability to engage in irrational lifestyle options in order to make its citizens' choices more rational.⁴² The goal of taxation is not only to generate the right outcomes, but also to foster the development of intellectually and emotionally mature individuals, a process in which 'even bad choices have a role to play' because people learn and grow through experience. Moreover, citizens have a profound human dignity interest to choose their own lifestyles. Respect for legitimation individual choices is a fundamental component of the U.S. free market system and democratic government.⁴³ The evidence for smoking is an irrational decision is not strong enough to justify interfering with smoking decisions of informed adults. Moreover, studies have pointed out, as discussed later in details, some smokers may respond to increased cigarette taxes by adopting more harmful smoking habits, thus government's interference designed to make citizens' choices more rational might have gone the other way.⁴⁴

³⁹ *Id.* at 699.

⁴⁰ *Id.* at 703.

⁴¹ See Benowitz, *supra* note 22, at 1.

⁴² See Reiter, *supra* note 11, at 455-456.

⁴³ *Id.* at 457.

⁴⁴ See Jerome Adda & Francesca Cornaglia, *Taxes, Cigarette Consumption, and Smoking Intensity*, No. 4, 96 AM. ECON. REV. 1013 (Sep., 2006).

2. LOWER FINANCIAL BURDEN ON SOCIETY BY SMOKING THAN PREVIOUS STUDIES CONCLUDED

One of the basic rationales for cigarette taxes is the notion that a tax is needed to cover the “negative externalities” created by smoking. Negative externality is defined as “costs that imposed on people other than the immediate consumers of the goods or services.”⁴⁵ The same rationale, however, is used by protestors to argue against taxes increase. They claim that the existing cigarette taxes already cover external costs of smoking.⁴⁶ The two main concerns of estimating the negative externalities of smoking are: (1) the financial external costs imposed on taxpayers by smoking related diseases; and (2) the burden of environmental tobacco smoke on the non-smokers.⁴⁷

The concern lies at the core of the “user fee” argument for cigarette taxation. User fee idea is that smokers should cover additional costs on medical system through paying cigarette taxes because they arguably use publicly provided medical care resources to pay for their smoking induced illnesses. This argument has significant limitations. First, smoking related diseases do not generally appear until many years in the future. In other words, today’s cigarette consumptions will not cause any financial burden on the medical system until later. For many contemporary smokers, the financial burden will be small, because they will stop smoking before the behavior has produced its most significant health damage. For smokers who will continue to smoke throughout their lives, their future costs should be discounted to calculate present value.⁴⁸ Therefore, today’s smoking related health care costs experienced by today’s smokers is much

⁴⁵ See Warner, *supra* note 7, at 380.

⁴⁶ *Id.*

⁴⁷ *Id.* at 381.

⁴⁸ *Id.*

smaller than previous studies concluded.⁴⁹ Secondly, smokers die younger on average than non-smokers; thus, smokers receive smaller social security payments and enjoyed a briefer period of eligibility for Medicare services than non-smokers, thus, “smokers subsidize non-smokers’ social security payments.”⁵⁰

The precise burden of environmental tobacco smoke remains a debate, economic analysts are divided in determining what to evaluate as external costs vs an internal costs. For example, economics typically considers the family as the decision-making unit, thus a non-smoking spouse’s treatment induced by his or her smoking spouse is considered as an internal cost. Some economists would be reluctant to apply it universally to children because children usually are powerless to affect tobacco consumptions.⁵¹ Because widely-accepted measurement and the amount of negative externalities produced by smoking is undetermined, cigarette taxes increase should not be imposed in the name of cost-recovery, especially when some studies have concluded that the current average tax per pack more than covers external costs.⁵²

3. INEFFICIENCY OF CIGARETTE TAXES INCREASE TO DETER SMOKING

Scholars have developed a number of theories and arguments questioning the efficiency of increased cigarette taxes to deter smoking. The first theory lies in the fact that smoking decline rates have slowed during the past five years, from 20.9% in 2005 to 19.3% in 2010. This decline did not meet the *Healthy People 2010* objective to reduce cigarette smoking among adults to 12%, despite the facts cigarette prices continued to increase.⁵³ This fact led many

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ *Id.* at 383.

⁵² See Lucas, *supra* note 3, at 694.

⁵³ See Current Cigarette Smoking Among Working Adults, *supra* note 6, at 1306.

scholars to doubt the role cigarette price played in reducing cigarette consumption. One study suggests that the decline rate responding to tax increase has been less than previous studies concluded.⁵⁴ Previous findings have concluded that the cigarette price elasticity to be between 0.3 and 0.5 in absolute value, meaning that a 10% increase in price would cause a 3% to 5% decrease in the number of cigarettes smoked.⁵⁵ Slower declining rate for low-income smokers compared with their richer counterpart is also a problem.⁵⁶ Since 1997, the smoking rate for adults has fallen 27%, but among the poor it has declined just 15%, despite increasingly higher cigarette taxes. This discrepancy suggests that taxes increase is not the primary driver of smoking prevalence decline. Anti-smoking measures have met obstacle, therefore, public health officials should refocus anti-smoking efforts on the poor and working class for further declines.⁵⁷

Cigarette taxation also presents some practical shortcomings as smokers develop a number of ways to avoid increased cigarette taxes. The easiest way to avoid increased cigarette taxes is to buy cigarettes from states or countries with lower taxes by driving to a neighbor state or purchasing online. When Delaware's tax rate (\$.55 cents per pack) was cheaper than New York's (\$1.50 per pack) and New Jersey's (\$2.05 per pack), at least one of "tobacco outlet" in Delaware witnessed a tenfold increase in sales.⁵⁸

Smokers can also get no-tax or low-taxed cigarettes from tribal reservations. An estimation of 40 percent of all cigarettes sold to New York State consumers come from untaxed

⁵⁴ Baltagi and Goel, "State Tax Changes and Quasi-Experimental Price Elasticities of U.S. Cigarette Demand: An Update;" Theodore E. Keeler, The-wei Hu, Williard G. Manning, and Hai-Yen Sung, "State Tobacco Taxation, Education and Smoking: Controlling for the Effects of Omitted Variables," *National Tax Journal*, vol. 54, March, 2001, pp. 83-102. Both studies found a decline over time and the latter study found an overstatement of elasticities because of state effects. Another study found variations in elasticities across states; Macki Aissoko, "Cigarette Consumption in Different U.S. States, 1955-1998: An Empirical Analysis of the Potential Use of Excise Taxation to Reduce Smoking," *Journal of Consumer Policy*, vol. 25, March 2002, pp. 89-106.

⁵⁵ Jane Gravelle, *The Cigarette Tax Increase to Finance SCHIP*, Congressional Research Service Report RS22681, Jan. 16, 2009.

⁵⁶ See Dwyer-Lindgren, *supra* note 1, at 1.

⁵⁷ Sabrina Tavernise & Robert Gebeloff, *Smoking Proves Hard to Shake Among the Poor*, http://www.nytimes.com/2014/03/25/health/smoking-stays-stubbornly-high-among-the-poor.html?hp&_r=1 (last updated March 24, 2014).

⁵⁸ See Rastgoufard, *supra* note 5, at 427.

sources and Indian reservations “account[ed] for more than half of [them].”⁵⁹ Another way to avoid the impact of cigarette taxes is by “rolling your own” or switching to low-cost brands. Because most cigarette taxes only apply to package cigarettes, “rolling your own” can save a smoker around 60 cents per pack.⁶⁰ Although switching to low-cost brands would not reduce the amount of taxes paid, it does allow smokers to offset the cost of the tax.⁶¹

Finally, another possible but troublesome way is to smoke more intensively. One study has shown that a possible explanation of cigarette consumption decline is that smokers increased the intensity of smoking by buying cigarettes with more nicotine and tar, inhaling more deeply and smoking closer to the filter to offset tax increase consequences.⁶² This explanation is supported by a report from Centers for Diseases Control and Prevention (“CDC”), which states that the number of smokers who smoke 30 cigarettes/day declines from 12.6% in 2005 to 9.1% in 2011, who smoke 1-9 cigarettes/day increases from 16.4% to 22.0%.⁶³ Because more intensive smoking can be more harmful as to have deleterious effect, a cigarette tax increase may have the perverse effect of harming smoker’s health, instead of promoting it, by pushing smokers to smoke more intensively.

4. THE STATES’ CONFLICT OF INTERESTS OF RAISING REVENUE AND REDUCING THE NUMBER OF SMOKERS

Most states are dependent on cigarette tax revenues to fund essential government programs.⁶⁴ The states raised approximately \$15.2 billion from cigarette taxes in 2006 and the

⁵⁹ *Id.* at 428.

⁶⁰ *Id.* at 430.

⁶¹ *Id.*

⁶² See Adda & Cornaglia, *supra* note 45

⁶³ See Current Cigarette Smoking Among Adults, *supra* note 10, at 890.

⁶⁴ See Haile, *supra* note 8, at 1.

states and federal government together raised \$32 billion in 2010.⁶⁵ Moreover, experts estimated that payments from the Master Settlement Agreement (“MSA”) in the first 25 years of the agreement, which was effective in 1998, would exceed \$200 billion.⁶⁶

States’ dependence on cigarette taxes generated revenues creates an inevitable conflict of interests to the states in their anti-smoking efforts. If the cigarette sales drop, the states not only may lose revenue, they may also face penalties. The MSA includes a provision that requires the states to maintain tobacco companies’ sales and market share, otherwise, states’ tobacco revenues would face reductions and states may even be required to pay back to tobacco companies for payments already received.⁶⁷ Therefore, states’ dependence on tobacco revenue makes governments and tobacco companies allies. Recent decades’ smoking declines makes raising taxes the most effective way for the states to avoid default on the MSA and to maintain balance budgets.

II. REGRESSIVITY OF CIGARETTE TAXES

Economists and lawmakers typically consider two basic principles in order to design an optimal tax: efficiency, which already discussed in Section I, and equity, which will be discussed below.⁶⁸ Equity, or fairness, “in taxation is widely understood to involve nondiscriminatory treatment of persons in similar situations (horizontal equity) and differentiation in the burdens imposed on persons with varying abilities to pay (vertical equity).⁶⁹ For our purposes, we only discuss vertical equity. Vertical equity is best illustrated by the-ability-to-pay principle: “citizens

⁶⁵ See Hanson & Sullivan, *supra* note 11, at 677.

⁶⁶ See Haile, *supra* note 9, at 21. The Master Settlement Agreement is a settlement agreement originally between four largest tobacco companies and attorneys general of 46 states for settling their Medicaid lawsuits. It was entered in November 1998.

⁶⁷ *Id.* at 19, 21.

⁶⁸ See Warner, *supra* note 7, at 384.

⁶⁹ See Reiter, *supra* note 11, at 461.

who are more able to pay for the costs of government ought to pay more in taxes than those who are less able to pay.”⁷⁰ This principle is reflected in income tax, which is progressive in nature. In fact, the U.S. tax system, in its entirety, is progressive, which is built on this principle.⁷¹ Some types of taxes, including cigarette taxes, however, are arguably regressive. “A tax is generally defined to be regressive if taxes paid as a share of income fall with income,”⁷² or in other words, a regressive tax is one that imposes a greater burden on the poor than the rich. Regressive taxes violate the ability-to-pay principle, thus are highly unfair to low-income smokers. The second part of this paper is devoted to examine the regressivity of cigarette taxes. This sections is divided into two major parts: (1) the regressivity of cigarette taxes: whether cigarette tax is regressive, whether raising tax reduces its regressivity and what are the fairness concerns because of its regressivity; and (2) methods to make cigarette tax less regressive and feasible alternatives to achieve the goals cigarette taxes designed to reach.

A. The Regressivity of Cigarette Taxes

1. WHETHER CIGARETTE TAX IS REGRESSIVE

Traditionally, a regressive tax is defined as one for which the average tax rate decreases as income increases. This definition focuses on tax expenditures by taxpayers. The burden of a tax is measured by taxes paid as a percentage of income.⁷³ By this measure, cigarette taxes are extremely regressive for two reasons. First, the poor spend a larger percentage of their incomes on most basic goods than the rich because the rich have larger amounts of income. Second,

⁷⁰ See Warner, *supra* note 7, at 384.

⁷¹ See Rastgoufard, *supra* note 5, at 413.

⁷² See Colman & Remler, *supra* note 2, at 378.

⁷³ See Lucas, *supra* note 3, at 738.

cigarette taxes are particularly regressive because the smoking rate is much higher among the poor. In 2009, the smoking rate for adults with family income of \$100,000 or more was 12.1%; comparably, the smoking rate among adults living below the federal poverty level was 30.6%, almost two and half times higher. Cigarette taxes, as a result, impose a large and disproportionate burden on the poor.⁷⁴

Moreover, studies have concluded that the incidence of tobacco taxation is over-shifted to consumers by between 8-17 percent of the amount of the tax.⁷⁵ One reason is that cigarette companies work as an oligopoly, they obtain maximum profit by raising the price of their products on addicted smokers, or consumers with relatively inelastic demand and will continue to smoke even after a tax increase.⁷⁶ Another explanation points to state law. States require retain cigarette venders to sell cigarettes at certain price higher than the costs, i.e. the Wisconsin “minimum mark up” law requires the sales price be at least six percent higher than the cost.⁷⁷ Any new cigarette taxes would continue be overly passed to consumers, making it more regressive.

2. WHETHER TAX INCREASE REDUCES ITS REGRESSIVITY

The regressivity of cigarette tax is not debatable until recently, in an effort to encourage higher cigarette taxes, Jonathan Gruber and Botond Koszegi, using a more comprehensive welfare-based measure, argue that cigarette taxes are less regressive than the traditional expenditure-based measure of regressivity implies.⁷⁸

The true burden resulting from cigarette taxes, according to Gruber and Koszegi, depends

⁷⁴ *Id.*

⁷⁵ See Hanson & Sullivan, *supra* note 10, at 677.

⁷⁶ *Id.* at 694.

⁷⁷ *Id.*

⁷⁸ See Lucas, *supra* note 3, at 739.

on how the taxes affect utility. Smokers' responses to taxes involve an increase or decrease in utility. If smoking is a rational choice, utility decreases because some rational smokers can no longer enjoy tobacco "the benefits of which outweigh the pretax costs (according to smokers' own rational calculations)."⁷⁹ The reduction in utility increases the tax burden. On the other hand, if smoking is suboptimal, which Gruber and Koszegi believe, a tax increase encourages people to quit or cut back smoking. Those people are better off, which decreases the tax burden in utility terms. Taxes are more effective at reducing over-consumption for smokers who are especially price sensitive, a.k.a. the low-income smokers. Therefore, low-income smokers receive a greater benefit by quitting or cutting back, "which may significantly reduce regressivity (or even cause cigarette taxes to be progressive)."⁸⁰

Gruber and Koszegi's argument is subject to at least two criticisms. First, smoking may be a rational choice, as discussed in Section I. If that's true, Gruber and Koszegi themselves admit that taxes increase deprives rational smokers' autonomy to smoke, causing utility to decrease and tax burden to increase. Second, Gruber and Koszegi may also overstate how sensitive low-income consumers are to cigarette tax increases. They claim that low-income smokers are very sensitive to cigarette taxes. More specifically, they find "a price elasticity of nearly -1.1 for smokers in the bottom income quartile." This finding suggests that a 10% increase in cigarette price leads to an 11% reduction in smoking, which is a relatively large response. Gruber and Koszegi's conclusion is unsupported. As an initial matter, it is difficult to reconcile their findings with the fact that the smoking rate among the poor remains high. As a matter of fact, the smoking rate among adults below the federal poverty level fell only slightly from 33.3% in 1997 to 30.6% in 2009, despite significant cigarette tax increases during that

⁷⁹ *Id.* at 740.

⁸⁰ *Id.*

period.⁸¹ Moreover, several reputable studies conclude that although low-income smokers are responsive to cigarette taxes, they are not nearly as price sensitive as Gruber and Koszegi claim. Traditional findings conclude that a 10% increase in cigarette price leads to a 3%-5% reduction in smoking.⁸² Gruber and Koszegi's challenge to the regressivity of cigarette tax is unsupported and unpersuasive. Regressivity remains a serious concern for society.

3. FAIRNESS CONCERNS

If cigarette tax is regressive and raising tax will not make it less regressive, then cigarette taxes run into two fairness objections. First, if a cigarette tax's goal is to raise revenue, it betrays two established principals of taxation because it clearly violates ability to pay principle and it does not "equalize the social distribution of wealth in any predictable and systematic manner; in fact, [taxes] may even make it more unequal."⁸³ Second, if its purpose is to deter smoking, cigarette tax operates as a prohibition, which can be escaped for a fee. Compared with rich-smokers, lower-income users are economically compelled to desist, while their richer counterparts suffer no real constriction of their range of consumption choices.⁸⁴ Cigarette taxes discriminate against low-income smokers in addressing the smoking problem.⁸⁵

Defenders of cigarette taxes, recognizing taxes' regressivity in the economic sense, argue that it is offset by the overall welfare gain that lower-income people receive when high taxes remove the unhealthy products out of their reach. This theory is subject to a serious flaw, as Jendi Reiter articulates:

⁸¹ *Id.*

⁸² *Id.* See also Gregory Colman and Dahlia Remler find a price elasticity of -0.37 among low-income groups. Matthew Farrelly and his colleagues find an elasticity of -0.43 for the bottom half of the income distribution. Similarly, William Evans and his colleagues find an elasticity of -0.32 for the bottom half of the income distribution. Finally, Nicolay Gospodinov and Ian Irvine find an elasticity among smokers with less than a high school education of -0.22.

⁸³ See Reiter, *supra* note 11, at 463.

⁸⁴ *Id.*

⁸⁵ *Id.*

If the smokers . . . whose welfare is at issue do not feel they benefit from being economically forced to give up their habit, the gain the theories perceive is a chimera, and resorting to his so-called gain as an excuse for regressive taxation is both unconvincing and patronizing. Moreover, even if the smokers . . . would benefit in subjective terms, a burden has still been imposed on them in a regressive fashion because only those with incomes low enough to feel the impact of the tax have suffered an impairment of their real-world freedom to choose between the pleasures of the habit and the pleasures of good health. The benefit which the lower-income smokers . . . have received, namely better health and an end to addiction, is equally available to higher-income people, but the latter class of people are still free to obtain this benefit in the amount that suits them rather than in the amount has been forced on them by financial necessity.⁸⁶

B. Alternatives

It is widely understood that smoking is bad for both smokers' and non-smokers' health. Based on our arguments, increasing cigarette taxes is neither an efficient nor a fair way to deter smoking. Alternative methods ought to be developed to address that issue. In this section several feasible alternatives are discussed: (1) a revenue-neutral switch from posted taxes to register taxes; (2) the commitment contract for smoking cessation; (3) the smoking license; (4) providing information regarding cessation aids; (5) promoting harm reduction; and (6) spending cigarette taxes revenue on anti-smoking programs.

⁸⁶ *Id.* at 464.

1. A REVENUE-NEUTRAL SWITCH FROM POSTED TAXES TO REGISTER TAXES

There are two types of taxes laid on cigarettes, a posted tax that is included in the post price and a register tax paid at register. Knowing how consumers' attentiveness to those two types of taxes varies by income is essential for understanding the distribution of a tax's burden.⁸⁷ In other words, if low-income smokers are more responsive to changes in register taxes than their richer counterparts, policymakers can reduce a tax's regressivity by adding it to register than including it in posted price. Conversely, if low-income consumers pay more attention to posted taxes, increasing register tax will exacerbate its regressivity.⁸⁸ Economists and behavior analysts have discovered that both high- and low-income consumers respond to changes in the cigarette excise tax ("posted tax"), but that only low-income consumers respond to changes in the sales tax rate ("register tax") on cigarettes.⁸⁹ Therefore, a revenue-neutral shift from posted to register taxes could reduce cigarette tax's burden on low-income consumers.⁹⁰

2. THE COMMITMENT CONTRACT FOR SMOKING CESSATION

The commitment contract is a voluntary contract between smokers and private banks. The banks offer smokers products to help them stop smoking. Smokers who accept the offer deposit their money in saving accounts for a period of time. If they succeed in quitting, the banks would give their money back. If they fail, however, the money would be donated to charity. In other words, the contract incentivizes smokers to quit because their money is on the

⁸⁷ Jacob Goldin & Tatiana Homonoff, *Smoke Gets in Your Eyes: Cigarette Tax Saliency and Regressivity*, No. 1, 5 AM. ECON. J.: ECON POL., 302, 303, Feb. 2013.

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *Id.*

hook. The commitment contract is designed to help smokers who have self-control problems.

Xavier Gine and his colleagues test this idea and discover that many smokers were willing to try this method to help them quitting. Around 11% of smokers who were offered the product signed a contract. Compared with cigarette tax, the primary advantage of the commitment contract is that it is voluntary. It respects the heterogeneity among smokers and allows smokers who have self-control problems identify themselves. Those who rationally decided to smoke can still enjoy their autonomy. The commitment contract also reduces concerns about regressivity since it does not impose a compulsory tax on low-income smokers. Moreover, the commitment contract can become a profitable service for private banks.⁹¹ One limitation of the commitment contract is that may not be specially appealing to low-income smokers as they have fewer economic resources to allocate compared with smokers can absorb the additional costs imposed by the commitment contract.

3. THE SMOKING LICENSE

Along with the commitment contract, another approach to address self-control problems is government issued smoking license. The basic idea is that smokers who have self-control problems would voluntarily apply for government issued smoking license in order to purchase cigarettes. Any purchases by smoking license holders would be subject to additional taxes. Those collected taxes would be deposited into escrow accounts and be refunded to smokers when they successfully quit or surrendered their licenses. Similar with the commitment contract, the smoking license is voluntary, but it motivates smokers with self-control problems to quit because they surrender payments to additional taxes. Smokers who do not have self-control problems or

⁹¹ See Lucas, *supra* note 3, at 743.

do not want to quit can choose not to participate and pay the generally applicable taxes.⁹² The smoking license faces similar limitation of the commitment contract to attract low-income smokers.

4. PROVIDING INFORMATION REGARDING CESSATION AIDS

Government could also help smokers quit by collecting and distributing information about cessation aids, e.g., varenicline, nicotine gum, and nicotine patch. Those cessation aids can be effective methods. The average estimated abstinence rate six months after quitting is 25.4%-33.2% for varenicline and 19%-26.1% for nicotine gum. Abstinence rates are even higher for certain combined therapies, e.g., nicotine gum and the nicotine patch. Despite the potential benefits, smokers seem to receive very limited information about those cessation products. One study discovers that fewer than 22% of current smokers who attempted to quit for at least one day in the preceding year used medication.⁹³ Government is in good position to use its resources to promote cessation aids.

5. PROMOTING HARM REDUCTION

Tobacco companies already felt the pain from tight tobacco regulations and high taxes. They are experimenting with less harmful products to maintain their profits. Government should play a role in encouraging safer cigarettes and pseudo-cigarettes. One approach is to create a comprehensive rating system that would allow smokers to compare the risks posed by newly

⁹² *Id.* at 744.

⁹³ *Id.*

developed products with traditional cigarettes.⁹⁴

A government rating system brings two significant benefits. First, it would allow tobacco consumers to make informed choice of products that match their risk preferences. Second, a rating system would incentivize tobacco companies to produce safer cigarettes and pseudo-cigarettes, as a result of which, may also drive the prices of those products down. Safer cigarettes allow rational smokers to continue enjoy the benefits from smoking while avoiding some of the health costs. Irrational smokers are also better off because they are exposed to less harm from smoking safer products.⁹⁵

6. SPENDING CIGARETTE TAXES REVENUE ON ANTI-SMOKING PROGRAMS

This is not an alternative, but a proposed redirection or correction for current use of states' cigarette taxes generated revenue: cigarette taxes revenue ought to be used for anti-smoking measurements. It is no secret that most states view cigarette taxes as a political favorable means to raise revenue and the states seem to forget another proposed function of those taxes is to implement health policy. Even if states were not facing budget crisis, they spend their tobacco money in every way except trying to stop their citizens from smoking. Numerous articles have exposed this issue. For instance, the Los Angeles Times discovers that, only eight states met the minimum guidelines for anti-smoking program set out by the CDC and only 5 percent of the funds paid out by the MSA has been used for anti-smoking measures.⁹⁶ From a tax policy perspective, it is fundamentally wrong to impose a cigarette tax when the tax money is

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *See Rastgoufard, supra* note 5, at 436.

not used for cigarette-related expenditures.⁹⁷ Moreover, earmarking cigarette tax revenues also prevent states from becoming more dependent on cigarette tax revenues to fund government services unrelated to anti-smoking efforts.⁹⁸ However, earmarking alone would not address the conflict of interest since many states have already become dependent on cigarette tax revenues to fund essential government services.⁹⁹

None of those measures, standing alone, could effectively limit tobacco use. For example, some measurements, like the commitment contract and the smoking license, may only appeal to smokers who can afford additional taxes. The most effective means is through a comprehensive anti-tobacco program, consisting with some or all of the methods discussed above.¹⁰⁰

Conclusion

Increasing cigarette taxes have been driven by three major rationales: raising revenue, recovering external costs of smoking, and imposing social control. The external costs of smoking are arguably a lot smaller than previous studies have concluded and the precise measurement remains in debate. The social control rationale, primarily driven by paternalism and other similar views does not hold up because smoking might be a rational decision and even if smoking is irrational for some people, governmental intervention is not justified to take away people's irrational choices. Economic studies also concluded that cigarette tax is an inefficient way to deter smoking and the government needs to refocus anti-smoking effort among the poor through alternatives. Additionally, states' commitment in combatting cigarette consumption is

⁹⁷ *Id.*

⁹⁸ See Haile, *supra* note 9, at 37.

⁹⁹ *Id.* at 38

¹⁰⁰ See Rastgoufard, *supra* note 5, at 431.

questionable as states are dependent on cigarette tax revenues to fund government programs.

Cigarette taxes are highly regressive as well. As smoking is overwhelmingly and increasingly becoming an activity for the poor, increasing cigarette taxes makes it more regressive and unfair. Moreover, cigarette taxes are over-shifted to consumers and are most likely to stay in this way when new taxes are imposed. Although advocates of higher cigarette taxes sought to introduce new measurements questioning the regressivity of cigarette taxes, their findings conflict with other scholarly respected and widely-accepted studies and their models have serious limitations in theory. Feasible alternatives to deter smoking or reduce regressivity include: a revenue-neutral switch from posted taxes to register taxes, the commitment contract for smoking cessation, the smoking license, providing information regarding cessation aids, promoting harm reduction; and spending cigarette taxes revenue on anti-smoking programs. This paper is designed to educate the public, especially non-smoking readers, the flaws in the arguments supporting higher cigarette taxes, the inefficiency of cigarette taxes to deter smoking, and unfair burden those taxes imposed on low-income smokers.